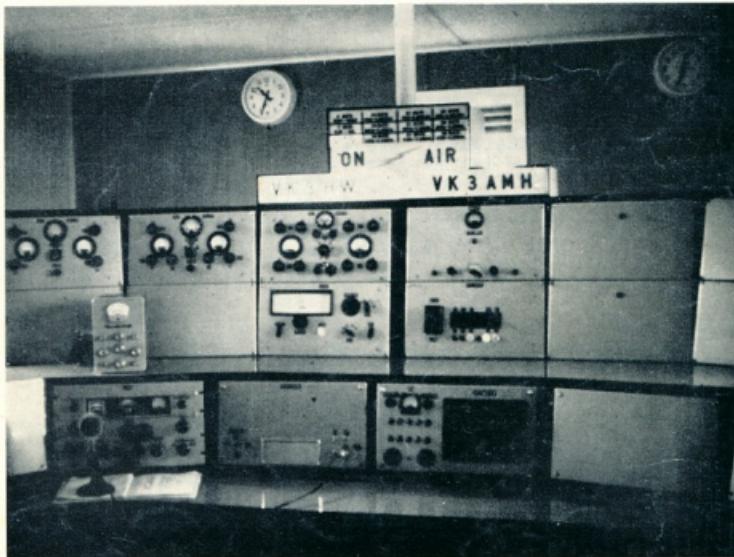


# AMATEUR RADIO

JUNE 1963



Vol. 31, No. 6



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# "AMATEUR RADIO"

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA. FOUNDED 1910.

JUNE 1963

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## OUR COVER

The inside of VK3HW and VK3AMH looks like a "commercial" set-up. It is a credit to Australian Amateur Radio, and complements the previous cover photo of their aerial array.

## FEDERAL COMMENT



## A FUTURE IN ADMINISTRATION

Every Radio Amateur is deeply concerned about the future. Many vociferously clamor for preparations to be made for the battle to retain Amateur rights and privileges at the next I.T.U. Conference—extension of privileges now, or for this or for that action to be taken.

## WHO IS GOING TO DO ALL THESE THINGS?

In order to carry out the wishes of its members and properly represent the Australian Amateur, the W.I.A. must have fully manned Federal and Divisional Councils backed by active sub-committees consisting of qualified personnel.

There are some who claim that the old experienced members of these bodies are getting too long in the tooth and that young blood should be injected into the organisation.

We could not agree more; however experience indicates that enthusiasm and zeal must be tempered with sagacity borne of experience.

The time was never more opportune for the formation of active working committees employing younger personnel to tackle our major problems and prepare to step into the shoes of the oldsters as they relinquish the burden.

What better way is there of achieving continuity of administration, tempered with the wisdom of experienced administrators?

Those members who are prepared to serve such an apprenticeship will enjoy the fruits of their labor in the part they play in insuring the future of both the W.I.A. and their fellow Amateurs. The administrative experience so gained will in itself be a valuable asset in everyday life.

FEDERAL EXECUTIVE, W.I.A.

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# A Broad-Band, Bandswitched, Crystal-Locked Converter

A. S. MATHER,\* VK2JZ

**A CRYSTAL-LOCKED Converter** provides a cheap and effective way of improving the performance of almost any superhetodyne receiver.

This unit was made up to use in connection with my s.s.b. modified AR7 which has a Band C coil box, modified to allow it to tune from 3.5 to 4.0 Mc. through the complete tuning range of the dial, from approximately 500 to 0.

The 7, 14, 21 and 28 Mc. signals are heterodyned so they are tuned with bandspread on the 3.5 to 4.0 Mc. range of the receiver.

Thus we now have a double conversion superhet with a crystal-locked high frequency oscillator, better image rejection, bandswitching, bandspread and greater stability as the 2nd h.f. oscillator is tuned from 3955 to 4555 Kc. for all bands.

Numerous articles have been written on crystal-locked converters and they are all basically the same with the exception of the type and frequency of the crystal oscillator.

It is hoped that the following article may be of interest to those wishing to improve their receiver performance.

## THE CRYSTAL-LOCKED OSCILLATOR

Four FT243 crystals with fundamental frequencies of 3.633 Mc., 3.500 Mc., 5.833 Mc. and 8.166 Mc. are used on their second overtone of approximately 10.8 Mc., 10.5 Mc., 17.5 Mc. and 24.5 Mc. to convert the 7 Mc., 14 Mc., 21 Mc. and 28 Mc. bands to the 3.5 Mc. to 4.0 Mc. tuning range of the receiver.

\* "Wolaroi," 14 William St., Singleton, N.S.W.

The harmonics above the fundamental are called the overtones of the fundamental.

Most magazines refer to 3rd overtone operation of a 3.5 Mc. crystal as oscillation on a frequency a few kilocycles lower than its 3rd harmonic with no output on the fundamental or 2nd harmonic, that is 3.5 Mc. or 7 Mc.

I will use this convention as far as the mode of operation is concerned, but as the 1st overtone equals the 2nd harmonic, operation of a 3.5 Mc. crystal at a frequency of approximately 10.5 Mc. is the 2nd overtone and not the 3rd overtone as generally stated.

I will not attempt to discuss the theory of overtone crystal oscillators, which has been discussed before in "A.R.,"<sup>†</sup> but the most important fact is that when the feedback is correctly adjusted and the plate circuit tuned, oscillation at the series resonant frequency will take place at the 2nd overtone, which is a few kilocycles lower in frequency than its 3rd harmonic. However, as stated, only oscillation at this and higher frequencies is obtained and none at the fundamental and 2nd harmonic. So you can see the injection frequency is always 3.5 Mc. lower than the tuned frequency with the exception of the 7 Mc. band when it was approximately 3.8 Mc. higher and the receiver tunes backwards from 3.8 Mc.

This is a slight disadvantage, but there appears to be no satisfactory way of tuning the 7 Mc. band from 3.5 Mc. higher, as with the other bands, without using a 3.5 Mc. crystal on its funda-

mental and that puts a hefty 3.5 Mc. signal at the band edge.

Needless to say, using crystals on other frequencies and turning backwards or forwards on various receiver frequencies open other possibilities. It would be possible to use a 3.5 Mc. crystal with the oscillator coil tuned with switched condensers to oscillate on its 2nd, 4th and 6th overtone to give forward tuning at 3.5 Mc. on 14, 21 and 28 Mc., and backward tuning from the 2nd overtone at 10.5 Mc. to give 7 Mc. coverage from 3.5 to 4 Mc. on the receiver.<sup>‡</sup>

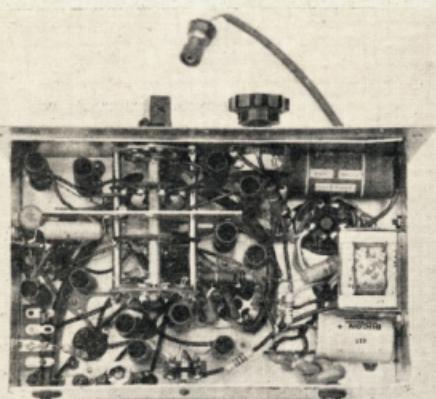
The value of the injection voltage would not be the same for each overtone as the voltage output will decrease as the overtone frequencies get higher, which could be a drawback. However, it has the advantage of saving three crystals and three inductances.

It should be obvious that unless considerable and, I think, unnecessary care is taken with the selection of the crystal frequencies, owing to the overtone operation being slightly lower than the 3rd harmonics, all band edges may not be on exactly 3.5 Mc. on the receiver.

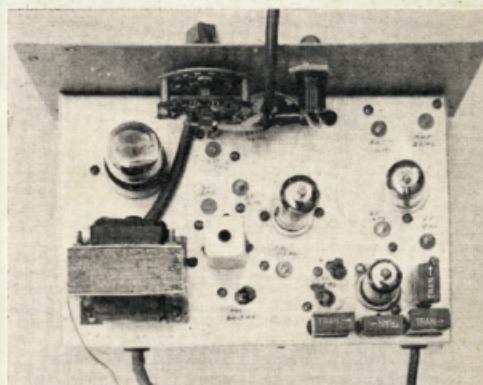
## OVERTONE OPERATION

As stated before, overtone operation only of the injection crystal oscillator is most important, because if the signal you get at say 10.5 Mc. also appears at 3.5 Mc. and 7 Mc., then the possibility of spurious signals, birdies and images is greatly increased, as they can beat with the incoming signal and harmonics of the receiver h.f. oscillator and i.f. frequencies.

<sup>†</sup> "Using Overtone Crystal Oscillators," "A.R.," Aug. 1960.



Under-chassis view of VK2JZ Converter. Around SW1 are the various coils. Those nearest front panel are L1 and L2 for 14 to 28 Mc. Below these are L3 for 7 to 14, 21 and 28 Mc. L4 coils are located between SW1 and SW2 for 7, 14, 21 and 28 Mc. Mounted on right hand side of chassis is the h.t. choke.



Above-chassis view of VK2JZ Converter. Grouped around the 6C4 oscillator can be seen the four crystals. Other valves (left to right): 6X3 rectifier, EF85 mixer, EF85 r.f. The switch shown is SW2, to the right of which is the pilot holder. Output i.f. is to right of power transformer.

This will soon be evident if the crystal oscillator is operated in the incorrect mode.

It is also important that all the crystals have similar electrical characteristics so that when the right amount of feedback for overtone operation is selected by adjustment of the 50 pF. Philips trimmer, it will be the right value for the others, otherwise you may find that what is the correct value of feedback to allow the crystal to overtone when the coil is tuned through the 3rd harmonic is too much for another crystal type and the overtone mode will not take over, or conversely, it could not be enough.

I have found it very advantageous in the adjustment of the overtone oscillator to use a communications receiver; and if your own receiver is not suitable to chase the various frequencies, perhaps you can borrow one for a few hours.

Tune to the 3rd harmonic of one crystal frequency with the Philips trimmer at maximum capacity. The crystal will oscillate on its fundamental and therefore, its 3rd harmonic. The capacity is then varied until operation of the 3rd harmonic will cease and re-appear a few kilocycles lower in frequency on the 2nd overtone, when the coil slug is tuned through the 2nd overtone. Then to make absolutely sure, check back to see there is no oscillation on the fundamental or 2nd harmonic.

Once the correct value of feedback is found, for one crystal, it should be OK for the remainder and only the coil slugs will have to be adjusted. It

is a good idea to lock the slug screws in their correct position with a suitable compound. I found resin to be quite satisfactory.

A 6C4 is used as the overtone oscillator, but any suitable triode, tetrode or pentode should work in this mode.

#### MIXER

The 2nd overtone frequency is introduced into the grid of the mixer valve

#### COIL DATA

All coils are wound on 7/16" diam. slug tuned formers.

In each case, L1 is spaced 1/16" from L2.

#### 28 Mc.—

L1—	4 turns	32 gauge	B. & S. enam.
L2—10	"	22	"
L3—10	"	22	"
L4—13	"	32	"

#### 21 Mc.—

L1—	4 turns	32 gauge	B. & S. enam.
L2—15	"	22	"
L3—15	"	22	"
L4—18	"	32	"

#### 14 Mc.—

L1—	4 turns	32 gauge	B. & S. enam.
L2—24	"	32	"
L3—24	"	32	"
L4—38	"	32	"

#### 7 Mc.—

L1—	7 turns	32 gauge	B. & S. enam.
L2—55	"	32	"
L3—65	"	32	"
L4—35	"	32	"

\* With parallel 10 pF. condenser.

by a condenser of approximately 5 pF., made by twisting two short lengths of P.V.C. bell-wire together and snipping them until the desired injection voltage is obtained.

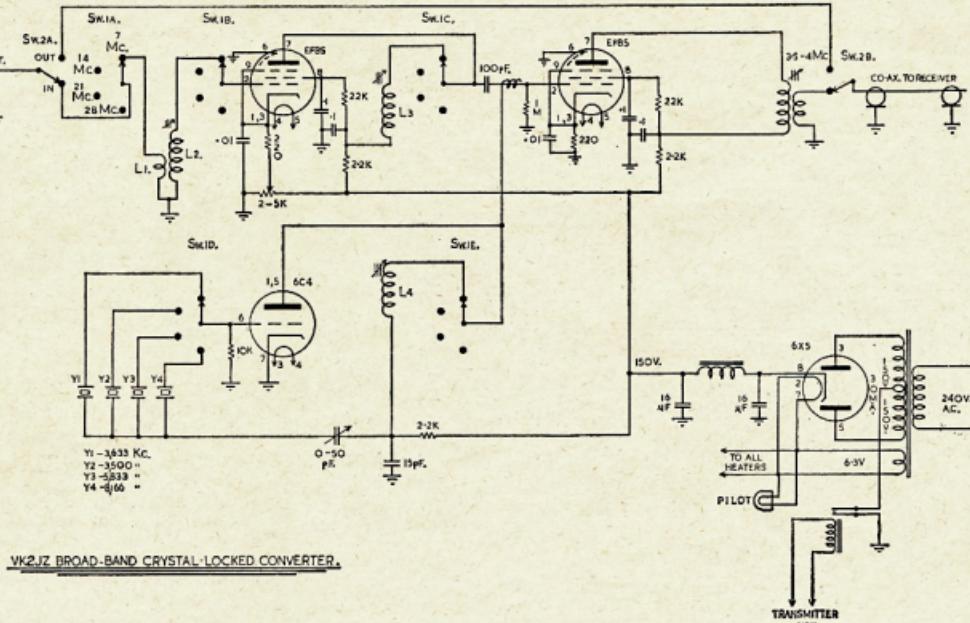
It is good practice to have as much injection voltage as possible, without having the combined injection voltage and signal voltage exceed the mixer bias, which would cause the mixer to draw grid current and generate spurious signals.

I have used a EF85 because I had two for the vision i.f. channel of my t.v. set, but a 6AH6, 6AK5, 6BY6 or any high transconductance pentode or triode would be satisfactory. Another attractive possibility is to use a 6U8G as the mixer with the triode section as the crystal oscillator. As the oscillator is crystal controlled, no problem with oscillator pulling should occur.

#### OUTPUT COIL

The output of the mixer has to be transformed from its plate impedance to the input impedance of the receiver and almost any slug-tuned i.f.t. can be put into service, as a 3.5 Mc. i.f.t.

Remove any parallel fixed condenser and enough turns (about three-quarters of them) so the coil will resonate at 3.5 Mc. with the internal capacity of the mixer and its own slug. Remove the other coil and wind on about ten turns of No. 26 gauge enamelled wire. Some converters feed the mixer with a 2.5 Mc. R.F.C. and take the output through a 0.01  $\mu$ F. condenser to the receiver. Whilst this would be high impedance, it would suit most of the older receivers.

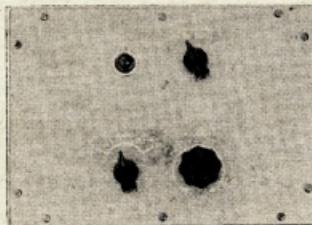


## R.F. STAGE

The r.f. stage is quite conventional and any high Gm tube such as the 6AH6, 6CB6 or 6BZ6 would be satisfactory. A EP85 or its equivalent, the 6BY7, is used here because its equivalent noise resistance of 1,500 ohms makes it an excellent tube for broadband operation and it is used extensively in t.v. vision I.F. channels.

A gain control is used in the cathode circuit and it is normally left in the maximum position except on very strong signals.

It should be noted that the signal-to-noise ratio delivered by the r.f. stage determines the overall signal-to-noise ratio of the receiver. Therefore, improvement in the noise figure on weak signals can be obtained by running the converter flat out and controlling the gain by r.f. control on the receiver, because as the gain of the r.f. stage of the converter is reduced, the Gm is reduced and the noise figure is increased.



Front panel of the VK2JZ Broadband, Band-switched, Crystal-Locked Converter. Controls: top right, converter in/out; lower left, band switch; lower right, r.f. gain. The pilot is seen in the top left.

## BROADBANDING

You will notice that the various coils resonate only with their own inductance, tube capacities and circuit strays. Some constructors may prefer to tune the grid circuits of the r.f. and mixer stages, but even if ganged this means another control and tracking problem and the gain is more than adequate now. I have not measured the signal-to-noise ratio, but it seems to be excellent. Although the number of turns for each coil is given, these are the values I started with, as suggested by VK2BK and some pruning will most probably be necessary. It was beyond me to count the turns after I had them mounted in the converter.

A g.d.o. is almost a must for any constructor and it will be evident that you will need to use one to get the coils right in the middle of the passband, particularly the 3.5-4 Mc. output i.f.t.

Be sure you wind them so they obtain the best possible effects from the slug tuning.

When the unit is operated the slugs can be adjusted for the best broadband characteristic before locking.

## CASE

The whole unit was made up in a standard metal case, 9" wide, 6 $\frac{1}{2}$ " high

and 5 $\frac{1}{2}$ " deep, with the two switches, gain control and pilot mounted as shown. The antenna terminals, output co-ax and h.t. transformer c.t. are all brought out the back. I used a 6X5 because I had one on hand. It would have considerable space and heat if two silicon diodes such as OA210s were used, or the required voltages could be taken from the receiver.

It is important to take the output co-ax from S.W.2 inside the case to the antenna terminals on the receiver, as no other pick-up must reach the receiver terminals other than from the converter.

Shielding is used between r.f. and mixer banks of SW1, but it may not be necessary.

## CONCLUSION

No doubt constructors will have their own ideas as to components, crystal frequencies, number of crystals, placement of parts, etc. The circuit values are not critical and common sense variations from the values marked would be in order.

This is a description of a unit which overcomes most of the shortcomings of other converters I have used and an old receiver can be made capable of greatly improved performance. ●

## UPPER SIDEBAND-XYL TYPE

I know all about being a beginner's wife, experience has taught me nearly all the do's and don'ts. A Radio Ham's wife needs to possess endurance, real stamina, courage in the face of great odds and enough cussedness to get her own way when it really matters.

My husband started off in a small way by owning and operating a set attached to the Flying Doctor base at Port Augusta. He has always been interested in radio and having whetted his appetite he got more and more enthusiastic as time went by. Two shifts later, one to Adelaide and the other to Port Pirie, he has really got into his stride. When we shifted from Adelaide to Port Pirie he was faced with the heart-rending (for him) decision that he would have to part with some of his gear (junk to the peasants). He still speaks in hushed tones as he tells fellow Hams how he wheeled out three wheel-barrows full and gave them away.

We went through agonies while he was studying for his Limited Licence. He used to attend talks given by one of the local Hams every Tuesday night, then he would bend my ear for the rest of the week until I could have quoted Ohm's law in my sleep. As if this wasn't bad enough, he then took to studying turn about at home with another fanatic (that's what they are though they emphatically deny it). During these sessions no one was allowed to breathe.

At last the great night came. My husband had the shanks and his friend's ulcer was playing up, but off they went, supporting each other. No sooner was the exam. over than home to our place and over incessant cups of coffee (if your husband shows any interest in radio, immediately ask for an increased housekeeping allowance) went through every question. The friend was feeling despondent as he hadn't anywhere near completed the paper, but my better half had and he went from the heights to the depths and back up again as he strolled over what he had written.

Well then, of course, we had to wait for the results. He used to ring me up every morning and afternoon to ask if there was any sign of his results. For six weeks we waited, and believe

me they were the longest six weeks of my life. Then at last the letter came that said he was the possessor of a Limited Licence.

Well, if he'd won the lottery he could not have been more pleased. He danced around the kitchen, whizzed the children, hugged me, laughed, joked, stood up, sat down, and generally carried on like he'd taken leave of his senses.

I thought things would quieten down then, but no, he had to get a receiver and transmitter on the air and build this, that and the other. It's impossible to listen to our radio inside for drilling noises and my cake tins disappear to act as cases for various converters, etc., and to cap it all he's had me out doing a balancing act on his shoulders, cutting wire so that he had enough to put up an aerial. I might add I get shaky on a chair.

Now he's learning Morse and I'm going to petition that it be admitted as grounds for divorce.

He has now taken on being the Secretary of the local Radio Club. Of course you know who does all the typing, etc., and most of the running around. He hasn't got the time!

Well I guess I'm stuck with him. I took him on for better or worse, but surely it can't get much worse than this.

If you have a husband who is just starting to take an interest in being a Radio Ham, I suggest that you steer him to other interests, before it's too late.

—XYL, VK5ZEG.

## SUBSCRIPTIONS

- Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

# A SWEEP GENERATOR FOR 455 Kc. I.F. ALIGNMENT

B. L. McCUBBIN,\* VK3SO, M.T.E.T.I.A.

**T**O those familiar with t.v. alignment techniques the sweeper is an essential tool. No other method permits the rapid accurate setting up of the i.f. response curve possible with a sweeper, yet we nearly all stick to the time honoured method of aligning our receivers and steam radio sets with a signal generator and output meter.

The piece of equipment to be described can be built mainly from the junk box. Most Hams will not need to shop around for anything but the Semi Cap.

The accepted type of sweeper as used for t.v. work generates its sweep at v.h.f. and this is then heterodyned to the desired spot. The author's aim was to directly sweep a 455 Kc. oscillator, thus making the equipment as simple as possible.

Many possible methods of sweep were tried and discarded for various reasons. One, which looked very promising, was the Wobblulator available ex disposals. This device has a metallic diaphragm which, unfortunately, suffers from fatigue and does a "King's Bridge" after a few hours work.

The saturable reactor type is not sufficiently linear for really good results.

Motor driven condensers, also, are difficult to make linear and are difficult to synchronise with the c.r.o.

\* 3 Kildare Street, Burwood, E.13, Vic.

With the increasing interest in s.s.b. and the need for accurate setting up of filters and selective i.f. channels the common method of laboriously graphing response curves is too much of a time waster. This sweeper will enable you to do in minutes what previously required hours.

This leaves us a little device which came on the market a couple of years ago. It is called a Semi Cap and looks like a silicon power diode. When properly used it will vary its capacity over a range of 3 to 30 pF, and can easily be controlled with sinusoidal a.c.

A sweep generator to fulfil its requirements must be linear over the full sweep range, must be capable of synchronisation with the c.r.o., must have variable sweep width and controllable output.

The first requirement is met by the semi cap in that the capacity variation is linear with applied voltage.

The second requirement is simply achieved by using 50 cycle a.c. for both modulation and c.r.o. sweep.

The use of a.c. for this purpose introduces a further complication in that the i.f. under test is swept in both directions and exact superposition of the

forward and return trace is difficult. This is simply overcome by keying the oscillator with a 50 i.p.s. negative going square pulse of half cycle duration. Control of the output is gained by using a medium cut-off r.f. pentode as an electronic attenuator.

Low impedance output is obtained by the use of a cathode follower output. If high level output is desired, it can be taken direct from the attenuator anode.

There are three controls on the panel. These consist of a phase shift for the c.r.o. X amp. drive, sweep width control and output control.

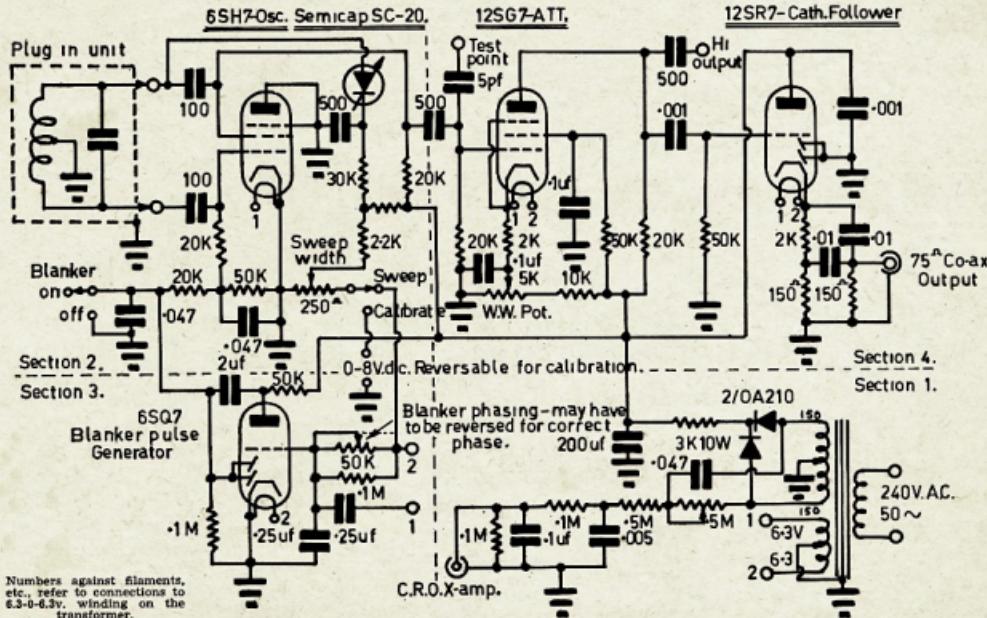
A second phase shift network will be seen in the grid circuit of the 6SQ7 blanking pulse generator. This control once set needs no further adjustment and can be mounted in any convenient position.

All valves used in the r.f. section are of the metal variety—because they were on hand and do not need screening.

## THE COIL

The coil is made plug-in and has its own shield can. It consists of two bobbins from an old 455 Kc. i.f. tranny pushed close together, the junction between the two bobbins being a convenient centre tap and is earthed.

N.B.—The centre tap on the coil is not necessary for the operation of the



oscillator. Its function is to complete the circuit for the semi cap bias and modulating voltage.

The coil is tuned by a 50 pF. mica condenser which brings the frequency down too low, so a brass slug is used to reduce inductance and hit the required 455 Kc.

The use of plug-in coils makes other frequencies easily available if required.

#### CIRCUIT

The power supply and phase shifting network for the c.r.o. X amp. drive is perfectly straight forward and should need no explanation.

The oscillator should need no explaining except for the queer hook-up of the tube. This was done to reduce anode current.

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The heart of the device, the semi cap modulator, is a modified form of silicon diode and when a voltage is applied changes take place within the barrier which vary the effective capacity of the device. There are some catches, however. The applied voltage must always be in the back direction, otherwise current will flow. Therefore it becomes necessary to superimpose the a.c. modulating voltage on to a d.c. bias of such magnitude that the cathode end of the semi cap never goes negative. In this case the author used 9v. d.c. and a maximum of 6.3v. a.c. This gives a range of approx. 18.5v. which is adequate for the purpose. 9v. ±6.3v. r.m.s.

The method used of adding the a.c. to the bottom of the bias supply causes a small shift of centre frequency with change of range, but, since the range is usually set and left, this does not matter.

In the blanking pulse generator, a.c. is applied to the grid of the 6SQ7 and during the positive half-cycle the tube saturates, whilst during the negative half-cycle it cuts off. This produces a step change in the anode voltage which is passed on to the diode section where it is squared up. This negative going pulse is not quite half a cycle in duration and because of this, the sweep pattern has a slight curl at each end. This is of very slight consequence and can be disregarded.

The electronic attenuator and cathode follower should not require any explanation, apart from the fact that R.C. coupling is used throughout.

The reason for this is that to be of any use a sweep generator must not only produce a change of frequency which is linear with time, the output level must remain constant through the entire swept range.

Therefore tuned circuits and even r.f. chokes, anything in fact that can possess a response curve of its own, must be left out of the amplifying and

attenuating circuits. Valve anode loads are kept low to ensure linearity.

So much for the description of the circuit and the reasons why these things are so. Nothing now remains but to add a few notes for the constructor.

Choice of valves. For the oscillator and following stages, any tubes that have a remote relationship with the ones used in the original version should work except that the r.f. pentode used as attenuator should not be of the remote cut-off type. The bias required to reduce the output to zero will be excessive.

The best layout for the oscillator, attenuator, etc., section is a straight line, starting with the coil at the rear of the chassis and progressing forward through the stages, or, alternatively, the same line-up across the chassis. Any line-up which puts the output circuit near the oscillator should be avoided as this will lead inevitably to a leakage of r.f. from oscillator to output and will spoil the operation of the attenuator.

For the blanking pulse generator the choice of valves is strictly limited, the 6SQ7 or GAV6 being the best choice here. Tubes with lower Mu are unsatisfactory unless the grid drive is raised to very high levels.

Silicon diodes were chosen for h.t. rectification because the power transformer was very small and the saving of a few watts of filament power was important. If you use a larger transformer there is no reason why a thermionic rectifier should not be used. Similarly, the 200 µF. filter condenser was used only because it happened to be available. A normal type filter using a choke and a pair of 8 µF. electrolytics would serve equally well.

The use of the 3,000 ohm resistor as a filter element reduces the on-load h.t. voltage to 80, but this is quite sufficient for the purpose. In fact upon testing the effect of raising the volts to 200, resulted in no noticeable effect on performance. True there was more output but this only meant that the attenuator had to be backed off to get the pattern back on to the c.r.o. screen.

One further note to add here is that marking techniques, as used for t.v. alignment, are unsatisfactory at this low frequency and possibly the most satisfactory method is to calibrate the sweep by applying a reversible d.c. voltage to the sweep width pot. and calibrating the sweep range up and down, remembering to convert from r.m.s. to peak values when converting the calibration back to a.c. Remember also that a separate calibration will be required for each coil if you decide to make coils for other frequencies.

For those who use i.f. frequencies lower than 455 Kc. you will find that a single semi cap will not produce the required range of sweep, even two in parallel may not be enough. The best solution to this problem would be to add a v.f.o. and mixer and heterodyne the sweep to the desired frequency.

It is felt that the foregoing has got a bit long winded for one issue of "A.R." so will QRT now. If there is sufficient interest another article will be prepared on use of the sweeper.

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# The Overtone-Harmonic Crystal Oscillator\*

FRANK C. JONES, W6AJF

THE odd name of this crystal oscillator is an attempt to classify its unusual operation. Nearly all oscillators either work towards a harmonic output of the fundamental frequency of the crystal, or at an overtone frequency of this fundamental. This new oscillator does both; it oscillates at the third overtone of the crystal, then multiplies to the second or third harmonic of this overtone frequency. One triode tube or one transistor does the usual work of two in the design of crystal controlled v.h.f. or u.h.f. converters for receivers.

The circuit shown, Fig. 1A, is about as simple as can be designed, considering the functions involved. The circuit oscillates at the overtone frequency, 43.333 Mc, for example, in the cathode of the 6AK5. The values of L1 and C1 are not critical but should resonate at from 20 to 30 Mc. when using third overtone crystals of 35 to 48 Mc. L1 varied from 1 to 10 microhenrys in the test circuits with a small variable condenser of 5 to 30 pF for C1. It was found that values near 1 microhenry were too small for some tubes and crystals. A 4 microhenry radio frequency choke coil seemed to work effectively with all overtone crystals in the range tested (from 20 to 48 Mc.). The lower frequency crystals required a little increase in C1 value for maxi-

• The old fashioned "oscillator string" in v.h.f. converters may be a thing of the past thanks to this new oscillator circuit. An ordinary overtone crystal may be used to provide outputs in the 100-150 Mc. region with only one tube or transistor. An excellent 2-metre converter is described using the new circuit.

tuned to the output frequency, lightly coupled together with about  $\frac{1}{2}$  pF coupling capacity. The second tuned circuit would then be coupled to the mixer. The added selectivity at 130 Mc. would add 20 db. or more of attenuation to the undesired second and fourth harmonics, 86.666 Mc. and 173.333 Mc. A single high Q circuit at 130 Mc. will do a fair job, but two circuits make the problem easier to solve.

Many different tubes were tested in this circuit. The two types that produced the greatest output voltage at 130 Mc. were a 6AK5 triode-connected and a 6CW4 nuistor triode. An arbitrary value of 1 watt input was chosen, in comparing tubes. A variable B+ supply and 0 to 5 mA. plate current meter were employed. In general, the triodes with highest Gm at low values

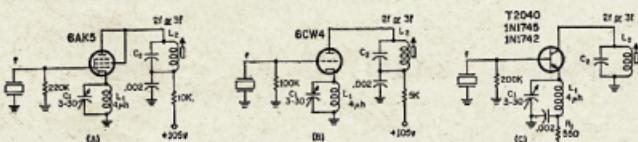


Fig. 1.—The Overtone-Harmonic Crystal Oscillator using a standard tube (A), a nuistor (B), and a transistor (C). Third overtone crystals in the 35-48 Mc. range require L1 and C1 to resonate between 20 and 30 Mc. Output tank L2-C2 should resonate at desired 2f or 3f freq.

mum output at the second or third harmonic of 40 to 96 Mc. and 60 to 144 Mc., respectively. The values of C2 and L2 should resonate at the desired output frequency with either C2 or L2 being variable in order to take up the tube capacity and the detuning effect of C1.

In the writer's tests the main work has been done with 43.333 Mc. third harmonic crystals producing 130 Mc. output for coupling to a mixer. This provides the usual 14 to 18 Mc. i.f. output for the 144 to 148 Mc. Amateur band. Since the tube or transistor does produce harmonics, the Q of L2-C2 should be as high as practical design will allow. Otherwise undesired harmonics will reach the mixer circuit and produce spurious signal responses from strong signals well outside of the desired Amateur band.

Good design would seem to indicate the use of two medium Q circuits

of plate current functioned best in this circuit. The 6AK5 and the 6CW4 produced from two to three times as much output at 130 Mc. as could be obtained from over a dozen triodes tried. Tubes such as 6BH6 and 6AU6 functioned fairly well when operated as screen grid tubes with the screen tied to the plate coil by-pass condenser. On the other hand, 6AK5s gave more output as triodes than as screen grid tubes in the tests to date.

This circuit requires good active overtone crystals for best results. Ten fundamental frequency crystals at about 11 Mc. were available for test. About one third of these would oscillate at the third overtone and produce a small output near 130 Mc., the fourth harmonic of the overtone frequency. The cathode feedback system is not a very efficient means of making a crystal oscillate at third overtone, so regular overtone crystals are necessary and tubes such as the 6AK5 or 6CW4 are preferable.

The transistorised circuit of Fig. 1C functions in the same manner with very good third harmonic output at 130 Mc. when using third overtone 43.333 Mc. crystals. A diode r.f. voltmeter connected across the collector circuit, L2-C2 indicated output voltages of from 1 to 5 volts peak when using an 8.4 volt battery supply. This was less than half as much as obtained from 6AK5 but the input power was considerably less than one half as much. This indicates better system efficiency for transistors, even neglecting tube heater power loss.

Several types of Philco transistors were tested in the circuit of Fig. 1C. The surplus type marked T2040, supposedly a 250 Mc. cut-off type, gave about twice as much 130 Mc. output as other types tested. No complete measurements were made as to exact input and output power. The 2N1745 transistor worked as well as the 2N1742 and 2N1744 so at the price differential, the 2N1745 had preference. A 50 Mc. cut-off type 2N1728 would produce some output at 130 Mc. but only about one-third as much as a 2N1745. Since the circuit was set up for 130 Mc. output, transistors designed for v.h.f. or u.h.f. are necessary.

In Fig. 1C, the connection between L1 (4 microhenrys) and R1 should be bypassed as shown. If no bypass is used, R1 will offer enough impedance at the fundamental frequency of the crystal (approximately 14.5 Mc. for 43.333 Mc. overtone crystals) so oscillation will take place at about 14.5 Mc. The 130 Mc. output would then be greatly reduced. A radio receiver was used to check on 14.5 Mc. and 43.333 Mc. oscillation. The latter frequency is necessary since the transistor or tube only has to multiply by three. Asking it to multiply by nine is too much!

The output circuits shown do not indicate any method of coupling to another circuit or to a mixer. The usual forms of inductive or capacitive coupling are suitable.

Overtone crystals are low-power type devices, so are suited for use in receiver converters where the r.f. power requirements are usually less than a milliwatt or two. When this circuit is used in a transmitter it should be followed by a high gain amplifier since an attempt to get a good fraction of a watt from this system will lead to crystal overheating and poor frequency stability. As long as the required output is in the low milliwatt region, excellent frequency stability can be obtained for either receiver or transmitter circuits.

## PROTOTYPE TWO-METRE CONVERTER

The 144 Mc. converter shown in Fig. 2 was built and used for a few weeks. It had good gain and low noise characteristics but was difficult to adjust properly. Because of the loss in the diode mixer, gain has to be added in

\* Reprinted from "CQ," February, 1963.

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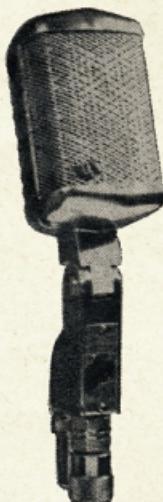
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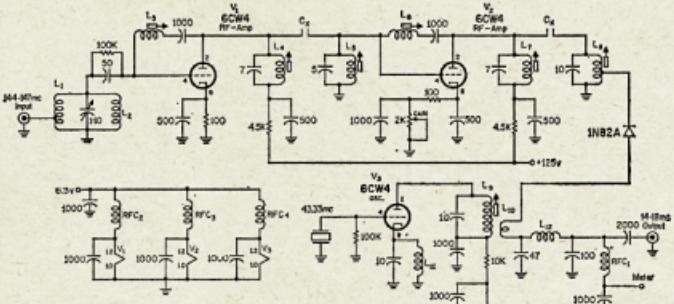


Fig. 2.—An experimental two-metre converter employing the overtone-harmonic crystal oscillator to produce 130 Mc. local oscillator output from a 48.833 Mc. overtone crystal. This circuit, although usable is not the ideal since the inductive method of neutralisation used is quite critical. A more practical circuit is shown in Fig. 3.

Cx—"Gimmick" capacitors. See text.

L1, L2—6 turns 18 gauge enamel, 5/16 in. diam., 1/2 in. long, air wound. L1 is 2 turns from ground.

L3—Neutralising coils, 18 turns 26 gauge enamel, 3/16 in. diam., 3/8 in. long on ferrite slug coil form.

L4, L5, L7, L8—4 turns 18 or 20 d.c.c., 1/4 in. diam., 1/4 in. long on ferrite slug coil form. Centre tap L8 only.

L9—7 turns 22 enamel, 1/4 in. diam., 1/4 in. long on ferrite slug coil form.

L10—4 turns 22 enamel, hook-up wire on L9.

L11—4 pif. r.f. choke.

L12—3 pif. r.f. choke.

RFC1—0.5 mH. r.f. choke.

RFC2, RFC3, RFC4—10 turns hook-up wire closewound, 1/16 in. diam.

Meter—0-125v.

some other part of the converter when it is to be used with moderate gain communication receivers. One r.f. stage and one i.f. stage in a converter unit would be much less regenerative than one with two r.f. stages, but would have less image rejection. From four to six tuned circuits in the 144 Mc. band are needed to reduce image signals to a low value when using the 14 to 18 Mc. i.f. tuning range in the main receiver.

The two stage converter shown here has five tuned circuits with an operating Q of 15 or less. The input circuit for the best noise figure should be operated at low Q and tuned to the low side of the band or even below the band, so its image rejection effect is nearly lost. This doesn't mean that the tuned circuit without antenna and grid loading shouldn't be high Q. Heavy wire in the coil also more effectively grounds very strong input signals directly in the i.f. range of 14 to 18 Mc. A high Q here and in the other circuits, compared to the loaded Q, means less loss of the desired weak two-metre signal.

This converter has two nuvistor r.f. stages with inductive neutralisation, a 1N82A diode mixer and a single nuvistor crystal oscillator. The inductance neutralisation system is critical in adjustment even in one r.f. stage and becomes a real chore with a two-stage system. The three slug tuned circuits in each stage have to be experimentally adjusted and the degree of coupling into and out of each stage has to be varied in order to cover several megacycles bandwidth. The neutralising coils from grid to plate are always adjusted for minimum signal feed-through from a signal generator and without plate voltage applied to the r.f. stage. The r.f. coils are peaked for maximum signal. These adjustments seem to interlock and since inductive neutralisation of this type is theoretically only perfect at one spot frequency, the problem of getting several mega-

to upset the input r.f. stage on the first unit enough to cause r.f. oscillation. The two stages of r.f. also produced problems when a new high powered two metre transmitter came on the air nearby. The intermodulation effects were bad and the modulation rode in on carrier signals across the whole two metre band.

The converter shown in Fig. 3 has much better stability with some sacrifice in image rejection. The overall gain of the two converters was comparable and the noise figure about the same, however the adjustments in the one r.f. stage unit were easily made and the bandwidth was greater. The gain over the whole two metre band was much more uniform and changes of antenna s.w.r. had no adverse effects on regeneration, only on noise figure. The unit shown here was tried with inductive neutralisation but due to spot frequency effects, neutralisation was not effective over the whole two metre band unless the operating Q of the tuned circuits was reduced to such a low value that image rejection became poor. Capacitive bridge neutralisation of the triode r.f. stage has a nice wide bandwidth and the operating Q could be made high enough so the four tuned circuits produced over 60 db. of image rejection.

The nuvistor mixer has considerable gain as compared to quite a bit of loss in a diode mixer, so one r.f. stage produces enough overall converter gain for most communication receivers tuning the range of 14 to 18 Mc. One r.f. stage with a gain control, especially if a remote cut-off type 6DS4 nuvistor is used in place of a 6CW4 nuvistor, takes care of intermodulation problems from nearby two-metre stations. This gain control, a 2,000 ohm potentiometer, is external to the converter in order to use it if needed when other local stations come on the air.

This converter, on a 2" x 6" copper-clad bakelite strip, was mounted in an inverted 17" x 6" x 3" chassis in back of the communication receiver. Several other similar converters for other Amateur bands were mounted in this chassis along with a small regulated power supply delivering 105 volts up

### A PRACTICAL CONVERTER

This unit was finally discarded in favour of the unit illustrated in Fig. 3. A change in s.w.r. in the antenna feeder with weather changes or pointing the two metre beam antenna into another nearby antenna or tree seemed

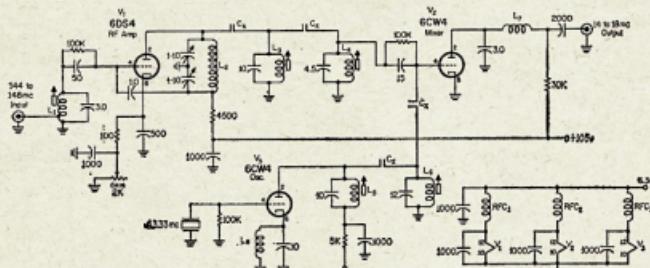


Fig. 3.—A practical 144 Mc. Nuvistor Converter using the overtone-oscillator. With this circuit a noise figure on a par with a 417A Converter can be expected. All capacitors are in pF.

Cx—"Gimmick" capacitors. See text.

L1—5 turns 20 d.c.c., 1/4 in. diam., 1/4 in. long on ferrite slug coil form.

L2—6 turns 18 gauge enamel, 1/4 in. diam., 1/4 in. long, air wound.

L3, L4, L5, L6—4 turns 20 gauge d.c.c., 1/4 in. diam., 5/16 in. long on ferrite slug coil form.

L7—20 pif. v.t. video peaking coil.

L8—4 pif. r.f. choke.

RFC1, RFC2, RFC3—10 turns hook-up wire, close wound, 1/16 in. diam.

to 20 mA. of plate power and 6.3 volts a.c. up to 1 ampere for heater circuits. A two section switch changes heater supplies and i.f. outputs to the receiver. Each converter connects to its own antenna so no switching is required on the inputs.

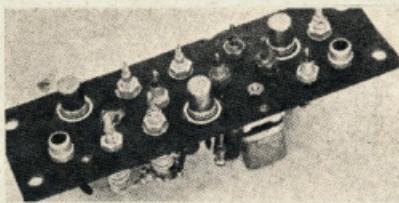
In testing this converter of Fig. 3 a grid dip oscillator is useful in aligning the tuned circuits to the approximate frequency. The four r.f. circuits were aligned to about 145 or 146 Mc. and the two oscillator coils adjusted to 130 Mc. before connecting the unit to a power supply. The r.f. stage plate tuning condensers were adjusted for about equal capacities in this step. A test signal generator in the two-metre band is used in the remaining tests. The unit is then connected to the power supply with the r.f. gain control dis-

sulated wire one or two twists may be needed.

A larger capacitor of from 0.66 to 1.0 pF. is needed for coupling between the r.f. plate circuit and the next slug tuned circuit since the circuit is approximately centre-tapped by the two tuning condensers and associated shunt capacities. Neutralising is accomplished by adjustment of each plate condenser running one in and the other out by equal amounts so as to maintain correct two-metre resonance. By unbalancing these two capacitors, a fixed 10% ceramic 1 pF. capacitor can be used to neutralise the nuvistor triode grid to plate capacity of about 0.9 or 0.95 pF. If both plate condensers are adjusted simultaneously in opposite directions one can watch the receiver S meter indication for best neutralisa-

The mixer plate circuit is coupled to the main receiver through a fixed tuned pi circuit consisting of a small 17 to 20 microhenry peaking coil and two capacitors. The ratio of these capacitors should be 5 or 10 to 1 between the low impedance side and the plate or high impedance side. The 3 pF. capacitor plus tube output capacitance, etc., adds up to about 5 or 6 pF. A two or three foot length of RG-59U coax line from the converter to the receiver will form the larger capacitance of the pi circuit. If the lead is shorter than this, a small capacitor can be connected across the output jack to build up the capacity to around 50 pF. If larger capacities are used with a smaller peaking coil to resonate at the middle of the r.f. range, the mixer output will not have as good a bandwidth. The values used in Fig. 3 produce a fairly flat 4 Mc. bandwidth.

The converter has the same noise figure as one with two 5842/417A triodes in a cascode stage and a triode-mixer converter in comparison tests with a diode noise generator. The 5842 tubes were in reasonably good condition in a converter normally used for two metre DX work.



★

Overall view of the 2 metre converter showing parts placement. The three objects placed among the slug-tuned coils and capacitors are feedthrough type capacitors used in this case as bypasses. Input is at the right.

★



Underchassis view of the 144 Mc. nuvistor converter using the Overtone-Harmonic Crystal Oscillator. The input is at the far right with the electron-type i.f. amplifier plate tuning capacitors (can be seen at the top) and the 6DS4 socket. The 6CW4 oscillator is at the corner of the copper-laminate board chassis.

connected entirely. A strong signal input will produce a signal in the i.f. output range if the crystal oscillator is functioning.

Fortunately this type of oscillator has a fixed oscillator circuit for the 43.333 Mc. overtone crystal so if the wiring is correct it will oscillate weakly at 43.333 Mc. in the cathode and grid circuits of the nuvistor oscillator tube. The plate circuit and its loosely coupled circuit are then peaked to produce maximum signal in the receiver from the test signal generator. Two tuned circuits of moderate Q were used to make sure that only the third harmonic of 43.333 Mc. (130 Mc.) was coupled into the mixer grid circuit. Too much oscillator injection voltage will usually produce spurious responses somewhere in the 14 to 18 Mc. output range; too little reduces the converter gain and causes some loss in noise figure also. The "gimmick" coupling condensers, short pieces of insulated hook-up wire are twisted together to produce coupling capacities in the range of 0.25 to 1.5 pF. A 0.5 pF. capacitance requires a single twist with small hook-up wire but with small conductor heavily in-

tion. For any one setting on one condenser, the other is adjusted for maximum S meter reading. Then adjust in small steps until the S meter reading is at a minimum. The unit shown was adjusted in this manner. Then when the r.f. gain control lead was connected and the gain control set at zero resistance, a 40 db. increase of signal resulted—about seven points on the meter.

The input circuit and antenna tap are always adjusted for best signal-to-noise ratio or noise figure. This means tuning this circuit not for maximum gain, but for best noise figure. The circuit will be set near 144 Mc. for best noise figure over the 144 to 148 Mc. range. The two slug circuits between the r.f. stage and mixer are adjusted for best average overall gain in the converter over the whole two-metre signal range. A diode noise generator or test signal generator can be used for this purpose while tuning the main receiver over the range between 14 and 18 Mc., corresponding to r.f. signal inputs between 144 and 148 Mc. The grid leak condenser in the r.f. stage is only for tube protection when using a high powered transmitter nearby.

## TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.

## W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

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VK3AHO	51	268	VK4RW	23	184
VK4FJ	21	247	VK3GB	50	183
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VK2TJL 48 129

VK2AGH 55 107

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VK3CZ	26	294	VK3AFM	56	239
VK2QJ	5	278	VK3HF	15	225
VK4FJ	29	277	VK3BZ	6	222
VK3NC	19	265	VK3RX	23	220
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VK3TJL 78 121

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VK3CZ	32	280	VK3JVA	43	252
VK6MK	74	270	VK3HR	7	225
VK2AGH	83	273	VK3BZ	4	221
VK3AHO	76	271	VK3WL	45	223

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## AMPLIFIED A.L.C.

Hallcrafters are making much in the advertisements for their new equipment of amplified automatic load control. Hallcrafters are no more up-to-date than our own Lance VK3AHL, who has done so much pioneering with v.h.f. s.s.b. Lance has been using amplified a.l.c. in his 50 Mc. sideband equipment

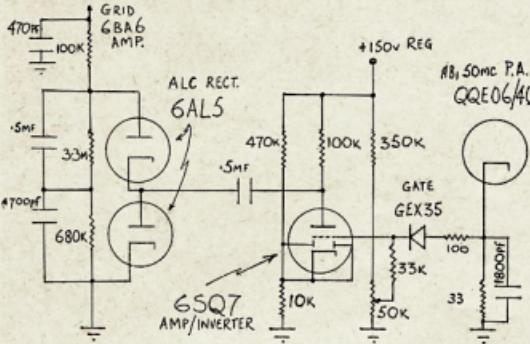


Fig. 1.—Amplified Automatic Load Control.

for some time but has now modified it as shown in Fig. 1. A diode gate has been added to the design.

This is the way in which it works. The diode is biased so that it does not conduct until the cathode voltage of the AB1 linear amplifier rises with grid drive to a point just before grid current flows. As we all know, grid current in Class AB1 operation is most undesirable, leading to severe distortion. Any excursions of cathode voltage beyond this point are passed on to the grid of the 6SQ7 tube which amplifies it and inverts the wave form into a negative going one. The 6SQ7 tube is biased to near cut-off in order to make maximum use of the characteristic curve (similar to class AB1) as only positive going wave forms are applied to the grid. This negative wave form is then applied to the 6ALS a.l.c. rectifier tube and the dual time constant network providing an a.l.c. voltage to the grid of a 6BA6 amplifier. In the VK3AHL transmitter, this amplifier is used to amplify the intermediate frequency s.s.b. signal at 6.34 Mc.

Different ways of setting the delay bias can be used. One method is to feed tone or carrier to the final amplifier, increasing the drive until the point of grid current is reached, then noting the final cathode voltage just below this point. Switch the final off, and with a high resistance voltmeter or v.t.v.m., set the delay control (50k potentiometer) to the same voltage as noted for the final cathode. The voltage between the diode gate cathode and ground is the delay voltage and these are the points of measurement.

Another method is to connect a high resistance voltmeter or v.t.v.m. between the 6SQ7 cathode and ground. With the potentiometer wiper to the ground end increase the drive to the final as before to just below grid current. Take note of this voltage and advance the delay control until the point of increase in the voltmeter reading is reached. This is when the cathode of the delay diode

for some time and in the meanwhile got v.o.x. operating complete with anti-trip.

He then decided to remove the noise limiter and found that the v.o.x. now would not operate in a satisfactory manner. It developed a chatter.

This is explained by a sharp transient as the v.o.x. disabled the receiver passing through the receiver and operating the anti-trip circuit. This immediately causes the v.o.x. to drop out, the cycle is then repeated and the result—chattering v.o.x.! Replacing the limiter cured the trouble.

You may recognise these symptoms and if you do, you will be interested in the limiter which appears in the R.S.G.B. Handbook, third edition, page 97, figure 47. On the diagram in the Handbook, the numbered designations on the 6ALS tube are wrong, "2" and "5" being transposed. For those who have not yet obtained a copy of this valuable book, Fig. 2 shows the corrected circuit.

## A LAST REMINDER

Did you participate in the "CQ" World Wide S.s.b. Contest? Have you sent your log in yet? After spending all that time getting those points, and it was hard work that week-end with such poor conditions, it would be a pity not to submit your log. The logs must be in the hands of the "CQ" Sideband Editors, 12 Elm Street, Lynbrook, New York, U.S.A., not later than June 15, 1963. Airmail it now, this is possibly your last chance.



R.C.A. have announced experimental transistors capable of 1 kw output. No size is announced but it must be a very heavy duty battery!! The same Company are producing transistors with an input rating of 16 watts at 50 Mc.

Diamonds may have an electronic future, as recent information relates that a special type of diamond can be used to detect changes of 0.002 degrees Centigrade. Wonder will the price decrease as production increases?

## A BUG SQUASHER

Here is a bug squasher that was found quite by accident. George VK7XL had put a noise limiter into his receiver and found that it did not perform very well on sideband. It did reduce the noise, but in reducing it to the same level as the signal it introduced quite an amount of distortion. George left the limiter in the receiver

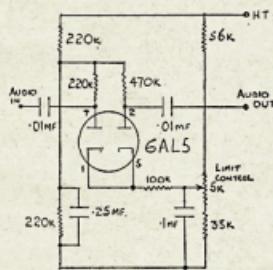


Fig. 2.—Anti-Anti-Vox Noise Limiter.

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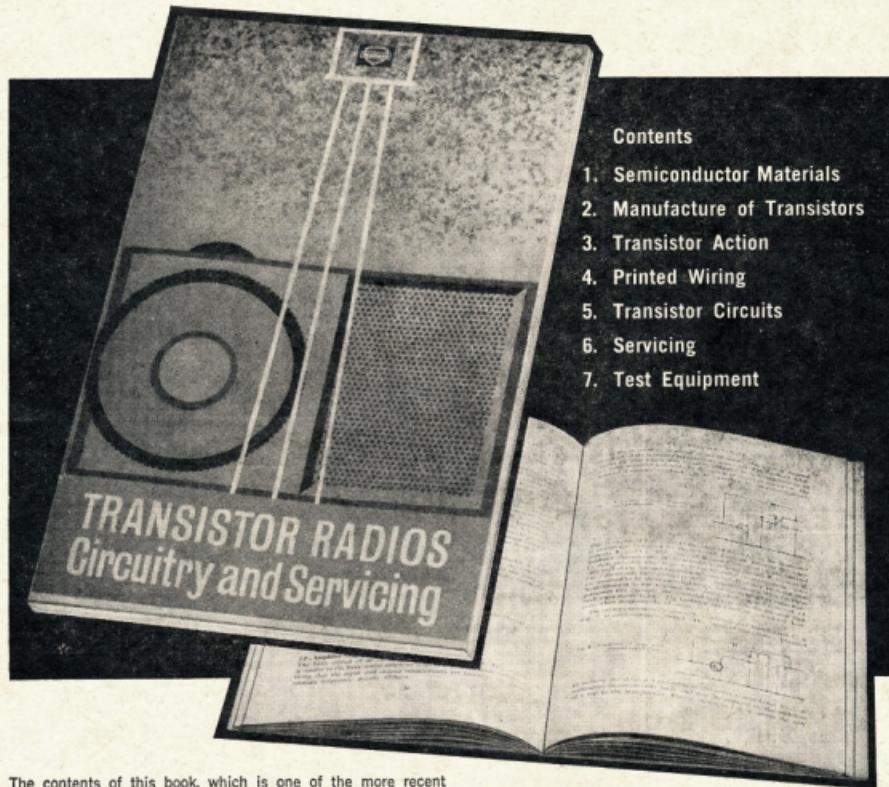
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The contents of this book, which is one of the more recent Mullard publications, includes a simple explanation of the function of the transistor, the complex processes involved in transistor production, care and methods of repairing printed wiring boards, detailed descriptions of circuits likely to be encountered in transistor radios and the test equipment required.

Practical considerations are emphasised throughout the book, which is priced at 5/3, plus 8d. postage, and is available from most booksellers and from Mullard Offices and Distributors throughout the Commonwealth.



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Please send me \_\_\_\_\_ copies of "Transistor Radio Circuitry and Servicing" for which I enclose \_\_\_\_\_ remittance, being 5/3, plus 8d. postage per copy.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

STATE \_\_\_\_\_

# ROSS HULL MEMORIAL V.H.F. CONTEST 1962-63 RESULTS

The Federal Contest Committee takes pleasure in presenting herewith with the results of the 1962-63 Ross Hull Memorial V.h.f. Contest. Many comments have been received regarding the Contest rules and the scoring system and the Contest Committee hereby acknowledges those who so contributed. It is the intention of the Contest Committee to sum up all comments submitted by contestants and if warranted submit a recommendation to Federal Executive. At the same time, contestants must realise that it would be impossible to compile a set of rules that would be one hundred per cent acceptable to everyone, and so a compromise has to be made somewhere along the line.

Honours for this year go to VK4ZAX whose mammoth score of 8,797 points was indeed a really fine individual effort. Our congratulations also to the other award winners, and in conclusion we wish to thank all those contestants who submitted logs.

—Federal Contest Committee, W.I.A.

## TROPHY WINNER

VK4ZAX—D. R. Horgan ... 8797 pts.

## AWARD WINNERS

Section A—Transmitting, Open	
VK3AAU—D. D. Tanner	381 pts.
VK4BZ—D. B. Hughes	2824 "
VK5TN—B. G. Tideman	1867 "
VK6VV—B. J. Clarke	3150 "
ZL3RK—T. J. McKenzie	1500 "

Section B—Transmitting, Phone	
VK1VP—E. Penikis	1098 pts.
VK2CF—R. C. F. Norman	4393 "
VK3NJ—H. Meallin	1277 "
VK4ZAX—D. R. Horgan	8797 "
VK5ZDR—M. J. McMahon	5102 "
VK6ZAA—W. J. Howse	1624 "
VK7ZAQ—W. J. Emmett	1955 "
VK9AU—R. A. J. Taylor	502 "
ZL1AKY—G. S. Reed	1010 "
JAIKYV—H. Yamada	20 "

## Section C—Receiving

WIA-L2242—D. J. Patterson	3104 pts.
WIA-L3076—R. H. Young	1109 "
WIA-L4028—T. A. Lane	2248 "
VK5—Miss J. Martin	12 "

## INDIVIDUAL SCORES

Section A	
VK3AAU—Ripplebrook	381 pts.
VK4BZ—Mt. Gravatt	2824 "
4PU—Woombye	1384 "
VK5TN—Kings Park	1867 "
VK6VV—Geraldton	3150 "
6WG—Albany	2114 "
6BE—Kalamunda	1735 "
ZL3RK—Christchurch	1500 "

Section B	
VK1VP—Canberra	1098 pts.
VK2CF—Croydon	4393 "
2ZLP—Armidale	2279 "
2ZFB—St. Marys	2009 "
2HE—Turramurra	1126 "
2ZFS—Goonellabah	948 "
2ZDA—Miranda	692 "
2ZPJ—Wahroonga	563 "
2ASI—Inverell	412 "

2ZBP—Illabo	400 "	5NW—Check Log
2BQ—Warrawee	344 "	5TM—Check Log
2RX—Bexley North	341 "	5CL—No mileage shown, disqual.
2ABR—Milperra	163 "	5ZSG—No mileage shown, disqual.
2ZPB—Ashfield	74 "	VK6ZAA—Mt. Pleasant ... 1624 pts.
VK3NJ—Essendon	1277 "	6ZDS—South Perth ... 1385 "
3ZGP—Fawkner	831 "	6MM—Nedlands ... 841 "
3QV—East Malvern	804 "	6ZAL—Bunbury ... 420 "
3ZNB—Anderson	677 "	6ZCD—Albany ... 365 "
3ABP—Altona	436 "	VK7ZAQ—Lenah Valley ... 1955 "
3ZLP—Wallington	333 "	7ZAV—New Norfolk ... 546 "
3FN—West Preston	129 "	7ZAX—Hobart ... 112 "
3ZNR—Boronia	122 "	7ZAC—Lenah Valley ... 110 "
3ZGL—Keon Park	95 "	7MY—Check Log
3AIG—	85 "	VK9AU—Port Moresby ... 502 "
3ZIA—Check Log	"	ZL1AKY—Papakura ... 1010 "
3ZGF—Check Log	"	JA1CYV—Tokyo ... 20 "

## Section C

WIA-L2242—D. J. Patterson,	Sydney	3104 pts.
WIA-L2211—R. C. Abernethy,	Sydney	1479 "
WIA-L3076—R. H. Young,	Brighton	1109 "
WIA-L3065—I. D. Thomas,	North Clayton	1032 "
WIA-L3035—M. R. Cox, West	Heidelberg	601 "
WIA-L4028—T. A. Lane, Bris-	bane	2248 "
VK5—Miss J. Martin, Wild	Horse Plains	12 "

## Book Review

### RADIO AMATEUR'S HANDBOOK (A.R.R.L.)

The fortieth edition of this long accepted standard manual of Amateur practice closely follows the layout of previous issues. The new style typeface introduced in the previous issue has been retained. If anything, the photographs are even better in this new issue.

As usual, the constructional articles are the best from "QST". New material is mainly on linear amplifiers. There is additional material on 432 Mc. equipment, which, with the release of this band to Australian Amateurs in the near future, will be of especial interest to those whose main interest is in the v.h.f. regions.

This reviewer has always found much of interest in the catalogue section, and this edition is again most interesting. One noticeable feature is the tendency towards higher prices for some equipment advertised.

The book contains twenty-five chapters and is well indexed, facilitating rapid location of any matter required, from basic theory upwards.

It is impossible to find words to describe this manual that have not been used before. We can only suggest you have a copy on your bookshelf.

Our copies from McGill's, 183 Elizabeth St., Melbourne, and Technical Book Co. Pty. Ltd., 295 Swanston St., Melbourne. Price \$1.6 plus 2/6 postage.

## VK9LA—COCONIS ISLAND

VK9LA is operated on Cocos Island by Lionel Allen, a radio technician employed by Dept. of Civil Aviation, who now has every reason to believe he is operating one of the world's rarest DX stations. He is the only active licensed Amateur on the island (despite what appears to the contrary from time to time). (VK9RC is also on the island, but at the end of April was inactive.)

The equipment in use at VK9LA consists of an HT37 tx (acquired Dec. 1962), Drake 2A rx, TH4 triband beam antenna.

Operation is confined to 14 and 21 Mc.—mostly 14 c.w. and phone. VK9LA averages approx. 10 contacts per day and is active most days. Strange to say, Lionel states that he hears very few VK signals and makes the unusual plea for VK stations to listen for him (from 1200 G.M.T.) and give him a call whenever heard. (He would especially like his first QSO with VK1 which he says "would be DX for me".)

VK9LA will be on Cocos until late December 1963, after which he will return to VK6. (The Allen XYL and children are on the island with Lionel—their eldest son is at high school level in his education and studies by correspondence—not so hot says the OM!)

All contacts and s.w.l. reports on his signals are QSL'd 100 per cent. Cards for VK9LA can be sent direct to him or via the VK6 (W.I.A.) Bureau.

Amateurs everywhere owe a debt of gratitude to Lionel Allen for his daily efforts to keep Cocos Island on the Amateur Radio map via VK9LA. —BERS195/WIA-L3042

# W.I.A. FEDERAL PRESIDENT'S ANNUAL REPORT, 1962-63

It is my privilege to present my report on the activities of the Wireless Institute of Australia in particular, and of the Amateur Service in general, over the last twelve months. This year has been one of re-organisation rather than of any great achievement—the last Convention in Perth, Western Australia, produced a new line of thinking—that the time is fast approaching when we must have a more realistic Federal Constitution so that the future growth of the Institute may develop along sound and progressive lines. The proposal presented at the Convention indicated two ways of achieving our objective—there are probably others also—and your Executive has discussed ways and means of handling the problem which has led them to the conclusion that the best way is to approach the law up to discuss the matter legally and in greater detail. This proposal will no doubt receive your attention later in this Convention. Unfortunately, due to circumstances beyond our control, Councilors did not receive the minutes of the Perth Convention until late in the year, and consequently your Executive has not completed all action required in the time available. I trust that this will not occur in the future and every endeavour will be made to see that action by all parties is completed between Conventions.

Touching on administrative matters, the Secretary continues to deal with large volumes of correspondence, his usual conscientiousness, but I cannot help but remark that Federal Councillors may ease his burden by a more careful study of the Constitution and Policy Book. Two-thirds of the time of Executive is spent with correspondence and quite a large proportion of which may be matters dealing with laid-down policy. If this administrative burden can be cut down it will leave Executive more time to deal with outstanding directives of the Conference, other projects and furtherance of the Institute as a whole. Your co-operation in this regard would be of great benefit to all concerned.

I am very pleased to announce that the long and constructive work of the Vice-President, Mr. Max Hull, was rewarded early in the year by his being elected Life Member of the Victorian Division, an honour justly and well deserved for his long association with the Executive and his terms as Federal President. His years in this office were trying ones but handled with tact and judgment. One has come to expect from him. I also thank him for the support he has given me this year and I know perhaps more than anyone just how valuable that has been. I cannot let this opportunity go without also thanking my thanks to Mr. George Glover, a Past President, who, although not an official member of the Executive, has continued to support the Executive and provide it with his almost infinite memory for past events and his experience also gained from long service in Institute affairs.

Membership of the Institute has continued to grow although I feel there is room for a great deal of improvement. It is also most important that by the time of the next I.T.U. Conference, which may be only a year or two away, the Institute should be representing the bulk of Australian licensees. At present efforts is made to insure the 50 per cent figure which can be improved with concerted efforts by Divisions. A comparison of the membership figures given at the last three Conventions, compared with present figures, are of interest:

	1959	1960	1963
M. L.	M. L.	M. L.	M. L.
VVK 785	1158	1057	1240
VVK 728	1158	1241	1342
VVK 728	1211	1282	1362
VVK 455	362	260	410
VVK 369	397	444	454
VVK 113	217	141	241
VVK 25	62	34	78
Total	2326 3407	2667 3672	3110 4141

The membership figures above cover all grades of membership and not just licensed members, so that it can readily be seen that we must increase our membership by active drives if we are to increase our membership. The means of doing this is a policy matter, but one for the Divisions to actively pursue in their own interests. It should be noted that the A.O.C.P. holders have continued to follow the trend growth indicated at the last Convention and they still out-number the A.O.C.P. holders in current exam results. We must make every effort to pursue the policy of encouraging them to take a full licence.

I expect that since the inauguration of the High School Radio Club scheme in N.S.W. this year and just starting to make strides in other Divisions, our overall membership will benefit, as well as providing a most useful service to the community. Every Division should be made to make this an Australia-wide scheme and those Divisions who have not yet commenced activities in this sphere should start as soon as possible. I have not yet heard any report of our approach to the Radio Fund for donations to the Divisions of gear for their Clubs, but hope that every Amateur will respond, so that those actively running the Clubs will have your support in a practical way.

The Executive have had two major meetings with the P.M.G.'s Department this year—the first to discuss and modernise the regulations for Amateur Stations and the other to discuss matters arising from the last Convention. In relation to the last meeting the results are easily evidenced in that the new addition of the Handbook is on the Booksellers' shelves. In most respects, any alterations suggested by the Executive were accepted and included and consider the publication a big improvement over the earlier one. There are still a few contentious points which are still to be tackled, but these will be progressively corrected as necessary. Regarding the second meeting, it is too early to say whether our propositions will be accepted, but you may rest assured that every effort has been made to put our case in the strongest possible terms.

During the year we have maintained liaison with the A.R.R.L., the N.Z.A.R.T. and the F.R.C. We have also maintained Handbook with the R.S.G.B. and Divisions will most likely have been asked by now for their requirements. They will be available at a cheaper rate than possible through the usual bookseller, with entries and small profit to go into Federal funds. Through overseas visitors of some of our Council we have been able to keep contact with the J.A.R.L., the M.A.R.T.S. and the R.S.G.B. I am sure our ambassadors in each case will be asked to pass on these Society's information of some of our aims. All members of the Institute will be interested to hear that the R.S.F. of the U.S.S.R. has been accepted as a member society of the I.A.R.U. Membership will well result in a better understanding of affairs behind Iron Curtain in Amateur doings, and be the means of lifting some of the bans that still exist.

The production of "Amateur Radio" and the "Call Book" has continued under the capable leadership of the Editor, Mr. D. G. Cocking, and the standard of both has been maintained despite the continued upward spiral of costs. The "Call Book" was a little later than usual this year and this was due to a combination by the P.M.G. of factors resulting in more correct listing of all Amateurs in Australia and its Territories. There will always be some mistakes but a note to the Editor can correct any errors if the individual calls for a personal reply to the P.M.G. Publications Committee will be compensated for carrying on a very onerous task in such an efficient and expert manner. The Editor and some of his Committee have attended some Executive meetings this year and this has resulted in a better understanding of each other's problems. I am sure that the Victorian Councillor will have a more detailed report to make during the Convention, especially in

relation to the financial state of both publications.

The Federal station of the Institute, VK3WIA, has received some attention during the year and has been installed in such a way that official broadcasts can soon be made. I must thank Mr. Harry Kinsler, a Past Vice-President, who generously donated a Hamclat receiver for Federal use. Plans are now being made for an operating schedule for VK3WIA so that Divisions and individual members may keep themselves informed on matters of Federal nature.

During the year, Mr. Tom Straughair, who has been responsible for all work connected with the production of new certificates for various purposes, was appointed as the Contest Committee Chairman. He has issued all certificates owing and outstanding to local and overseas Amateurs from W.I.A. Contests have been issued, and I am happy to report that the task is completed. He will retain this post and I trust there will be no complaints in the future about competitors in Contests not receiving their certificates in a short time after publication of the results.

Apropos the subject of Contests, the N.Z.A.R.T. because of the time factor, extended their year VK/ZL Contests to include the Oceans. This matter was discussed at the last Convention, but a decision had not been reached by Council so that the N.Z.A.R.T. did not advise us until after the rules had been published. We have not yet heard whether the choice of rules will be a success or not. The conduct of Contest affairs has this year been taken over by the Queensland Division for a period of three years, and I am sure they will very soon give the service their predecessor's credit in the post.

The issue of awards by Mr. Kissick have been dealt with in his usual prompt way and judging by the number signed this year, there has been no falling off in applicants. The QSL Officer, Mr. Ray Jones, has carried out his job with exceptional care and economy. His task has been made a bit easier by arranging a special QSL post office box nearer his home—this also meant a bit more room in Box 2611W!

During the year, the Institute was invited by the P.M.G. to nominate a representative to sit on the Signals Communications Committee set up to examine problems associated therewith in relation to other users of the frequency bands. Mr. Arthur Tinkler represented the W.I.A. on this Committee, and several meetings have been held to discuss the various problems. This is a preparatory committee to make recommendations on behalf of Australia at an International meeting to be held in Geneva later this year. It is probable that further meetings will be held prior to the official representative from Australia departing overseas, and it is this committee which will determine his brief. I have every confidence in Mr. Tinkler's ability to properly represent the Institute's interests which he has amply demonstrated in the past on the F.R.C.A.

Arising out of the last Convention, it was decided that a sub-committee consisting of a member of Executive and the VK2 and VK3 Federal Councillors should visit the members Radio Society to discuss the formation of a Division. Advice was received from the Society that they did not wish to pursue this idea at the present time, so it was not

(Continued next page)

## WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE Balance Sheet as at 28th February, 1963

Current Liabilities		Current Assets	
Accounts payable .....	£33 11 1	Cash on hand .....	£21 0 0
Contingency Fund .....	4 18 4	Commonwealth Savings .....	
Trust Fund .....	200 9 8	Bank .....	1037 17 11
I.T.U. Fund .....	434 10 8	Accounts receivable .....	4 0 0
		Stock on hand .....	211 15 10
Accumulated Funds—			£1294 13 9
Balance 1/1/62 .....	£870 16 1		
Less accumulated expenditure over Income for year .....	9 3		
		870 8 10	
			£1548 10 7

Fixed Assets (at cost, less depreciation—)	
Furniture and fittings .....	£15 9 10
Typewriter (No. 1) .....	12 8 0
Typewriter (No. 2) .....	12 12 0
Duplicator .....	117 9 0
Trophies .....	15 18 0
Equipment, VK3WIA .....	72 0 0

253 16 10

£1548 10 7

# YOUTH RADIO CLUBS

What a wonderful story to hand this month from Port Pirie! (N.B. It's just a geographical coincidence it seems to be VK3 rather than VK4). Letters come from Bert SEQ, President, Port Pirie Amateur Radio Club. "Following the reformation of our club towards the end of 1962, a public meeting was held to estimate the degree of interest in the town in forming a Y.R.C. The local newspaper provided publicity in advance and the headmaster of the high school gave the scheme plenty of promotion within the school. The final result was the formation of a Y.R.C. with no restrictions (for age or membership). Prior to the first meeting, on March 8, the headmasters of all the schools were approached and supplied with details of the Y.R.C. scheme. In every case we received the active support of these people. Local parents also came to our help with quite an extensive coverage, and as a result we enrolled 59 members at our first meeting (later increased to 62).

"A major difficulty at this stage was the provision of suitable accommodation, since the P.P.A.R.C. Radio Club had no regular meeting place. However, an appeal to the City Council for assistance was successful and we were granted the use of the radio room at the local airport. This airport was formerly R.A.F. and still bears the caravans and radio equipment. This room has been made available to us for £1 per year. Appeals in the local papers and over one of the local radio stations brought some tables and chairs, and a supply of refreshments for our meetings.

"At present, meetings are held once a fortnight, since the P.P.A.R.C. only has about a dozen members and due to business and other reasons, not all of these can devote regular time to these classes. Each session is split into sections to hold the interest of younger members. A short lecture on basic theory is followed by a Morse lesson, and then the remainder of the evening is devoted to practical projects."

In addition, Bert sends me a circular issued to parents. This has many sensible points—non-profit operation, free issue of parts but a register kept, privileges for members making best progress, small membership fee, regular statement of finances, radio supervision and safety measures, parents invited to visit, etc. This is a fine story with a moral for all similar centres. Heartiest congratulations to the members of P.P.A.R.C., the City Council, the schools and the parents! The moral: Amongst others, please note one special—if you can't manage a Y.R.C. yourself, form a group.

Another good news from VK4 and VK5. VK5SPH has accepted the job of Y.R.C. Co-ordinator in W.A. and Stan 4SA has been appointed in Queensland. Congratulations on your fine spirit, fellows, and I hope your Division backs you up as well as appointing

you. Awkward question—if you count 1, 2, 3, 4, 5, 6, 7, what number is missing?

Further news from VK3 is very encouraging—18 Y.R.C.s registered! Sorry to hear that the VK3 Co-ordinator, Ken 3HTL has not been in good health, but that should cheer you up, Ken. Ken has had a very encouraging letter from the Victorian Education Department which State is going to be first to have Summer Schools on Y.R.C. for Science Teachers?

An SOS. Brother Colin at St Francis' College at Leston hope to develop a transmitting type club at his college, which is a boarding school. Any Amateurs in the area who can help are asked to contact Brother Colin.

Further reference to Scouts. Negotiations are in hand with the N.S.W. Branch of the Boy Scouts Association to develop a programme for Scouts who gain W.L.A. Certificates to be entitled to Scout Proficiency Badges, e.g. Elementary Certificate of the Y.R.C. scheme might be a qualification for Wirelessman's Badge; Intermediate proficiency might be a qualification for Radio Mechanic's Badge, etc. What about pushing this scheme in your State?

Club leaders please note. Doug Williamson, of Bass Hill High School (Sydney) is in charge of Elementary Certificate training and testing. Keith ZAKES of Bourough High School, Bonnyrigg, N.S.W. looks after Sectional Certificate and Ralph ZZRS, of Homebush High School, Sydney, is the man for Intermediate.

Another SOS to Broken Hill: Frank 2ACQ visited Broken Hill and contacted local station authorities. Mr. Ben Hall, of local station 2MB, has agreed to assist in formation of a Scout Radio Club. Can Amateurs and Associates in Broken Hill do the right thing with help, instruction, and administration? Is Port Pirie to take the hide of Broken Hill?

Another SOS to Auburn: "I am sorry, but I'm hoping for a better spread soon!" First Auburn Senior Scout Radio Club should be on the air before long. Jim 2AMQ is instructor and has donated a s.a.b. Ray 2YA has made available to him his old transistors since 1957, if you inquisitive types want to know! But more help is still needed from the many Amateurs in Auburn. Mr. Makewell, of Revesby, has donated a quantity of gear including two intermediate oscillators and two Morse practice oscillators at the hands of Joe 2JR. Can anybody else help with construction (just a little). I'm snowed under myself, and would appreciate it greatly.

Finally, note to VK1KA at Lynneham High. The s.a.b. piping rig, 16K 1GB, of our school club, has been on the air for two contacts. One was with 2 watts of good s.a.b. and the other with a problematical 20 watts. Frequency alignment proceeds, but George is happy.

Our monthly message again. If you can't manage a Y.R.C. alone, form a group. T3. Ken 1KM.

## W.I.A. PRESIDENT'S REPORT

(Continued from page 14)

necessary for the subcommittee to travel to Canberra. However, I took the opportunity during a business visit to meet the members of the Society and discuss any problems with them. It was evident that there was no possibility to form a Division. However, other matters of interest to the Society were discussed and I was assured after the meeting that my visit was well worth while. I hope, during the next twelve months to be able to make many contacts with the members and discuss any of their problems in person.

Mr. Dave Rankin has continued to deal with the activities in the v.h.f. bands and since the publication of his article in "Amateur Radio" he has received a further 100 applications for v.h.f. records which are now being checked. Openings in the two lowest v.h.f. bands appear to have been more consistent this year and activity is on the increase. Many good contacts have been made with overseas stations and the increase in operation leads one to suppose that these bands will soon become as popular as the higher h.f. DX bands.

Regarding the financial state of the Executive, I refer you to the Balance Sheet for the current year which is attached to this report. The expenses for the operation of the QSL Bureau have doubled due to the increase in postage. The cost of printing the Remembrance Day Certificate has resulted in a slight deficit for the year. As there are still several other certificates to be printed in the next year, our deficit for the coming year is likely to exceed this unless additional income is forthcoming. I particularly wish to draw your attention to the Treasurer's report, although no doubt this will be referred to during the year, but despite the foregoing, our cash position for the year still reveal a healthy state of Federal finances.

This year Executive was composed of some older members plus the advent of two new members, Mr. Alf Seidenfeld and Mr. Ian Macmillan, both of whom have now settled into the Executive sphere and are assisting in the work and deliberations. I trust they will continue to supplement the knowledge and experience of the older members, as well as introduce new opinions into the discussions. This year the Executive held a total of 13 meetings and the attendances were as follows: W. Mitchell 13, M. Hull 13, J. Lancaster 10, D. Rankin 12, A. Tinkler 2, A. Seedsman 8, Macmillan 8, G. Glover 13 (co-opted), T. Struthairn 7 (co-opted), R. Boase 8 (co-opted).

It is only fair to say that Mr. Tinkler has been away interstate and overseas for a considerable part of the year and has not been able to attend regularly. I wish to thank all Federal Councillors of the past year, some of whom have not been re-elected, for their support and attendance to Federal matters on behalf of their Divisions. I do feel that the Divisions would be wise to give urgent consideration to the appointment of a re-election of Federal Councillors for a period greater than twelve months. It is very important for a new Councillor to put on his duties and be acquainted with Federal affairs in a short twelve months before a new man is appointed. To all officers not mentioned by name, I express my thanks for a job well done and I hope that all will continue to serve and contribute in the future as sincerely as they have done in the past. This year has not produced anything startling in the way of privileges or concessions, but it has been a year of organisation and re-building for the future. I believe the foundations laid this year in the various Amateur fields will lead to a constructive year ahead for those now charged with continuing the Amateur administration through the Institute. My own efforts will not be spared to promote the growth of the fine edifice we eventually hope to erect.

—W. T. S. Mitchell, Federal President.

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Recently one of our members was awarded the N.Z.A.R.T. award for having confirmed all DL districts on 50 Mc. What we would now like to know is the VK award on 50 Mc. available to members of the SWL Groups on proof of having confirmations from all VK call areas? So if Federal Executive could inform us we would greatly appreciate it very much. We would have a good number of S.W.L.s who listen to v.h.f. and if the awards are made available to us it will certainly stimulate us in our hobby and at the same time encourage more listeners to our v.h.f. bands.

#### VICTORIAN S.W.L. CONVENTION

This is an exclusive report on the 1963 Victorian S.W.L. Convention held during April at Ballarat. We were disappointed that no country members turned up at the Convention this year. The first day of the Convention saw that notorious blue Morris which struggled to Ballarat with a petrol pump that refused to pump. What member got involved with a YL and vanished all evening? This lad was detained that night by the YL who he found the hotel had booked up for the night when he arrived back early next morning. The lads saw everything that opens and shuts in a t.v. station when they inspected BTV6 and heard some of the amusing situations that can arise in a t.v. studio.

It appeared so simple the way Ron ZEER dragged in 144 Mc. stations from Melbourne and Mt. Gambier. There was a stunned silence of amazement when the boys saw the layout at VK3HWW. It was interesting listening to 20 metre QSOs with the signals coming in on either hand of a certain demand for that band and others hand by pressing one button. We thank the two leading Amateurs of the city of culture - S.H.W. and ZEER - for their hospitality to the S.W.L.s, duration of the Ballarat Convention. All writers for defamation of character should be sent to your Convention reporter.

It is very pleasing to see so many of our members have obtained their tickets recently. Most Amateurs graduate from being S.W.L.s. This no doubt is the reason that we are always seeing new faces in the Group, with only a few of the old regulars remaining within the Group.

We would be very pleased to receive any photographs that some of you may have taken of your shack or antenna system. Any snaps used in V.A.R.S. will be returned to you. So how about it? See what you can dig up.

Maurie L3635 is really giving the DX Ladder a shake at present. So beware you fellows at the top of the ladder. Recently he received a QSL for a report that he sent off 3½ years ago. So here goes, just to show you what you don't give up hope too soon for those rare QSLs.

On Friday, 3rd May, a number of us were at the Moorabbin and District Radio Club's get-together. We would like to thank them for inviting us for the evening.

Craig Cook, our publicity officer for the Sunday broadcasts, would like members who send in reports to him to let him know about their reports: time band, mode. This will assist him very much indeed if you will all do this. Thank you.

Now that we have more members with v.h.f. gear available, what do you say if we form a regular v.h.f. monitoring service? Anyway, give me your ideas on the subject as soon as you can.

We were given to understand that the V.h.f. Group would be willing to construct converters for the S.W.L. Groups. If this offer still stands, we have at least one member interested in 1296 Mc. Are there any other starters for this band? Keep in mind that next year we will be getting 430 Mc.

Ian L3085 comes forth with an interesting letter of his activities. Ian has not been active lately as he had just returned from a residence at Colac and he does not have his rx with him at present. Was very pleased to hear from you, Ian. Hope you can get your rx going at the new QTH. How do you like living in the bush these days?

Greg L3136 has been very active on the bands and has been receiving a few QSLs. At the moment he is getting ready to erect a beam. Bet you jump ahead once you get

#### NEW SOUTH WALES

Don L2022 has been very busy of late, however he has managed an occasional peep at the bands. Over the Easter period Don snared some nice DX - K6CA on 100 Mc. and PJ5CG from Carousel Island. Don would like to know of more details of FO8AA and KC4AAC. At the moment Don is thinking that unless he can put a beam up, he will be missing out on much of the DX. Yes, I think you have to be there to hear them.

Back in 1958 he used to use a t.r. rx and used to hear all the DX about the place. Conditions are certainly a far cry from those days, Don. And it looks as though it will be several years yet before the sunspot cycle starts its upward trend again.

Chas. L2211 has been rather busy of late, however your scribe was able to contact him via the 600-ohm line when in Sydney recently. At the moment Chas is busy modifying his t.r. set. Latest QSLs that Chas has received are from LUNGF, VR1B, ZETUR, YUSYU, JA1S and several 50 Mc. cards.

#### QUEENSLAND

Our good friend Afton L3136/VK4 comes forth with another very interesting letter. At the moment Afton is nursing a badly injured foot which was the result of a motor boat accident on the Tinaroo Dam, near Atherton. Very sorry to hear of your mishap Afton and hope that you will be up and about again before long.

Afton has been doing a lot of listening on 7 Mc. recently and has been hearing some nice DX on s.s.b. His only QSL for some time was from HP3FL. Afton is thinking of disposing of his HQ170 in the near future. Best of luck Afton. I will tell the boys about that little matter.

The recent heavy rains in North Queensland have prevented him from moving around much. Thanks for your letter Afton, and maybe I will see you within about 18 months.

#### SOUTH AUSTRALIA

Darrell L5041 has been very active on 14 Mc. s.s.b. recently, but is complaining about only getting 11 QSLs from 100 reports sent out to date. Well, we all know that there is that regard we all have that trouble. He now has an ARRS rx going and he is soon hoping to have converters going for 50, 144 and 283 Mc. bands. That is good news old boy, it is high time someone did something about the v.h.f. bands. Latest QSLs received by Darrell are from W6CLF and K9QQE.

#### PETERENAUSTRALIA

Peter L6021 has as usual been keeping VK6 on the map in the S.W.L. department. Peter has been on 14 Mc. a fair bit of late, for a change. He has been watching all the bands. He finds that the Ws are coming in very well on 7 Mc. in the morning. At the moment he has his first cross-over as he may be getting a new one soon. Peter writes a number of novice stations in the States and this keeps him very busy with the pen. Thanks also Peter for the photo.

Now come on you VK6 boys, don't leave all the pen-pushing to Pete, we want to hear from you.

73, Mac Hilliard.

#### DX LADDER

	Countries Conf.	Hrd.	Zns.	S.b.	W.
	Conf.	Hrd.	Conf.	Conf.	Hrd.
E. Trebilcock	277	285	40	50	
D. Granity	113	250	38	20	104
A. Westcott	87	159	31	9	107
M. Hilliard	72	223	33	19	152
M. Cox	70	223	29	37	156
F. Parker	55	217	22	22	114
C. Abernethy	52	96	29	2	29
N. Harrison	47	95	27	2	29
I. Thomas	41	139	20	16	97
D. Coggan	10	92	7	3	66
G. Earl	6	90	5	1	63

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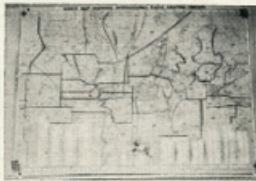
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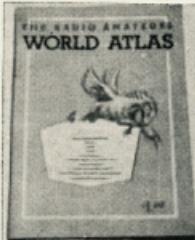
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# FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

## FEDERAL

### F.E. MEETING

Present at meeting held on 8th May, 1963, were: SUM, ZZS, 3JL, 3QV, 3AG, 3NI, 3CS, 3ZV, and 3IE.

#### Correspondence from:

1. P.M.G. details of A.A. Committees for 1963.
2. F.E. Trans. letter of thanks to members assisting with re-establishment of VK3WIA.
3. Rex Black, re Y.R.C. and other matters.
4. Rex Black, re copy of letter to VK2 Fed. Councillor re Y.R.C.
5. D.E. Cover foreword for Call Book.
6. Awards Manager, N.Z.A.R.T.; comment on 1962 VK/ZL.
7. VK3DU re contact with overseas societies.
8. E. Ferguson, re R.T.T.Y. frequencies.
9. Scott, World Bureau, re 1963 Jamboree of the World.
10. Membership return and circulation list, VK7. Bulletins: Feb. I.G.Y., Jan. I.C.D.O., Apr. VK4, Apr. VK6 May VK7.

**Business arising:** (1) Resolved that details and acknowledgement by published in VK7. Aspects of the production of the Call Book were discussed. (2) Resolved that samples of certificates and badges be made available to Mr. Bowie. The other matters were set aside for routine action by the Secretary.

**Treasurer's Report:** The report was received but adoption deferred pending clarification of certain items. The Treasurer having had to leave before the report was presented.

**Convention Report:** In a brief resume, 3UM stated that three major matters emerged in the course of the Convention, and upon which progress was made. These were:

1. A sound basis for a new Federal Constitution, a total of nine basic points were discussed in detail, and were the subject of motions, it being decided that a Federal Company seemed to be the best basis to work on.
2. A sound basis for the Youth Radio Clubs section was achieved, and much detail discussed.
3. I.T.U. representation—a basis of financing, involving individual Divisions, and other details, a target sum of £2,500 being suggested.

**General Business:** The main business was the election of office-bearers for 1963-4. Results were as follows: President, Major W. S. Mitchell; VK3UM; Vice-President, Mr. G. M. Hull; VK3ZS; Treasurer, Mr. N. Boast; VK3IN; Secretary, Mr. J. L. Lamerton; VK3JL; Activities Manager, Mr. A. Steedman; VK3EVT; Communications Manager, Mr. D. Rankin; VK3QV; Communications Manager, Mr. I. Macmillan; VK3CC.

Co-opted members were appointed as follows:

Historian, Mr. G. Glover, VK3AG; Government Liaison, Mr. A. Tinkler, VK3ZV; Co-ordination Manager, Mr. T. Straughair, VK3ABV; Fed. Awards Manager, Mr. A. Krick, VK3KB; Fed. Y.R.C. Coordinator, Mr. H. Black, VK3F; Fed. Contest Committee, Queensland Division.

Other matters discussed included a modification to the W.A.V.K.A. award, effective Jan. 1964, and another matter involving a service to members.

#### INFORMATION OF INTEREST FROM F.E.

An informal meeting was recently held with the P.M.G. Department to discuss various matters including the 2C calls which have come detailed in licence issuance. Amateur Advisory Committees, t.v.i., publication of Handbook for A.R.O. as part of Call Book, suffixes for different islands etc., under VK3-VK6, reciprocal licensing, 28 Mc. for 2X calls, and lastly, for O.C.C. applications for A.O.C.P. Details and results will be available when the exchanges are formalised.

#### HERE AND THERE

The sixth Jamboree of the Air will take place on 19th and 20th October between 001 hours G.M.T. 19th October, to 2359 hrs. G.M.T. 20th October. More details will be published at a later date.

Members are reminded that any "Federal Gripes" can receive attention via your Federal Councillor, or if you write direct write to the Secretary, C/o. Box 2611W, G.P.O., Melbourne.

Do you understand the organisation of the W.I.A.? We are going to print an article on this subject for those who are interested.

VK3WIA is back in business, and it is hoped that regular schedules of operation will soon be established.

#### VOTE OF THANKS

Federal Executive wishes to thank the following for their generous assistance in the re-establishment of VK3WIA:

Doug VK3DU for a modulation transformer and much hard work; Ken 3CW for an 813; Max 27Z for a mast and hard work; and to Alan VK3T for the gift of a 1000-watt amp. Particularly F.E. wish to thank Mr. Harry Kinnear for his most generous gift of a Hammarlund receiver, in respect of which it has been resolved to affix a suitably inscribed plate to the unit acknowledging the gift.

#### AMATEUR ADVISORY COMMITTEES

The following are the details of Amateur Advisory Committees forwarded by the P.M.G. Department:-

New South Wales: W. L. Woolrough, VK2GW; L. H. Taylor, VK3CF; N. MacNaughton, VK2ZH; G. G. Hart, VK2V; B. H. Anderson, VK2AN; D. K. McMahon, VK3AC.

Victoria: R. A. C. Anderson, VK3WY; F. P. O'Dwyer, VK3OF; N. L. Storck, VK3JO; R. J. Richardson, VK3ZP.

Queensland: K. D. M. Grice, VK4DG; C. E. Cozzoli, VK4CI; P. H. Brown, VK4PV; S. R. Baxter, VK4PJ; C. I. Patterson, VK4YP; R. A. Collins, VK4XK.

South Australia: J. C. Haseldine, VK3JC; R. G. Roche, VK3SPU; W. D. Randall, VK3VR; H. K. Stacey, VK3XA; W. D. Verral, VK3WV; E. B. Stephenson, VK3ZB.

Western Australia: R. Chamberlain, VK3RY; J. E. Rumble, VK3RU; M. J. McDonald, VK3MM; V. J. Kitney, VK3KV; A. Parker, VK3MO; P. Haywood, VK3PH.

Northern Territory: W. N. M. Nisbett, VK7BN; I. Nicholls, VK3ZZ; P. P. Grievs, VK3QV; C. Spiegel, VK3KS; E. Beard, VK7EB; T. Allen, VK7AL.

## FEDERAL AWARDS

#### W.A.V.K.A. AWARD

It has been decided that as from 1/1/64, VK1 will count as a separate call area, from which one QSL will be required. Three QSLs will still be required from VK2 as previously.

A complete reprint of the amended rules will be published at an early date.

#### D.X.C.C.

The following amendments are applicable to the Countries List published in "A.R." January 1963:-

AP—Pakistan should be AP—East Pakistan.

ET2—Eritrea. As from 15/11/63 Eritrea is deleted as a separate listing and thereafter is combined with Ethiopia.

FR7—Angola Nova, situated in the Mozambique Channel, is a new and separate listing.

FR7—Glorioso Is., situated north of Malagasy Republic, is a new and separate listing.

GC—Channel Is. The single listing of these islands is now divided into Jersey Is. as one listing and Guernsey Is. and Dependencies (Admiralty, Breton, and Sark). Little Sark, Breton, and Jethou and Lihou are each a separate listing. Credits already given for Channel Is. will be transferred to the appropriate new listing.

#### SILENT KEY

It is with deep regret that we record the passing of:

VK2FZ (ex VK0FZ)—F. M. Stearn.

VK7FJ—Ted Evans.

JZ6, PK1-3, 4, 5, 6. As from 1/5/63 the five separate listings of Neth. New Guinea, Java, Sumatra, N.W. Borneo, Celebes, and Moluccas Is. will be deleted. PK—Indonesia. As from 1/5/63 this new listing will embrace the entire territory of Indonesia.

VQ5—Uganda. New prefix is 5X5.

ZD1—Sierra Leone. New prefix is 9L1.

ZM5—Samoa. New prefix is SW1.

#### V.H.F. AWARDS

V.h.f. awards have recently been issued as follows:-

**V.H.F.C.C.:**  
No. 23—John Forse, VK3ZHF, 50 Mc.

No. 24—Len Poynier, VK3ZGP, 50 Mc.

**W.A.S. 50 Mc.:**  
No. 39—David Rankin, VK3QV.

No. 40—Peter Milne, VK3ZGM.

No. 41—David Sidey, VK3ME.

A. Kissick, VK3KB, Awards Officer.

## NEW SOUTH WALES

The general monthly meeting was held on Friday, 26th April, at Wireless Institute Centre, Cronulla. The meeting was good and general business was kept to a minimum to enable the guest speaker, Mr. Joe Read, VK2JR, to deliver a most interesting and possibly somewhat unusual talk on the advantages of vertically polarised aerials, particularly to help emphasise the startling facts surrounding the angle of radiation aspect of propagation. Joe displayed a large range of very carefully prepared slides. He touched on the subject of the various types of loading devices, with emphasis on positioning of loading devices, etc. This most interesting lecture, as expected, drew quite a number of discussion, there being quite a number of very active questioners in the audience.

Well, Easter has come and gone, and with it the much-awaited Federal Convention. This most important Federal get-together was conducted in Sydney in a very smooth and amicable manner.

One regret was that sufficient time was not available to show our guests more of the highlights of Sydney and surrounding areas.

Coinciding with the Federal Convention, the very popular Urunga Competition was held on the north coast. Harold ZAAH and Max 2MP represented VK3NSW at this gathering, and from their remarks they certainly enjoyed themselves, both on the official as well as the social side. As usual, a thoroughly commendable and enjoyable holiday week-end at Urunga.

With bad flooding taking place on the north coast as these notes are compiled, I may have some news next month on activities in April. And a curse in these areas. Having worked 2KOP/2P at South West Rocks (near Kempsey) during the last few days, it appears that he is not altogether suffering from sunburn. Last news from VK3NSW was that he had been completely washed out of his tent, and was operating a water-soaked 122 from emergency quarters on the reserve. 73, 2SW.

**YOUTH BRANCH**

The May meeting of the Branch, held in the University College, was again very well attended, there being thirty-six members and visitors present. At the meeting the first use was made of the tape lecture service of the VK3 Division, consisting of the absence of Les 2PA. With 2AKX, took over the microphone for the evening amid mixed cheers and other demonstrations of approval (or were they?) and at the conclusion of general business, Gordon's tape machine began to play.

The first voice heard was that of Lionel 2CS, better known as the "Big Guy" about the history of Amateur Radio in the Newcastle area. It was very pleasant to hear the voice of the old man even though he was at that moment on the high seas, and on the way to G. Land. The recording arrived in time for previous broadcast on "Newcastle Digital," which is a local programme originating from 2NA each Tuesday evening. Lionel certainly has done a great deal for Amateur Radio and programmes of this type maintain the good tradition.

The first lecture was "Grid Dip Oscillators" by Bob 2OA and there was much feverish scribbling in the half light to get down all the details of the various circuits described. Following on this was another tape, "Elimination of all T's" by Harry 2FA, a subject dear to all who are interested in the hobby. Both tapes will be received and the avenue of instruction will be further investigated in the future. The meeting closed very late with some frantic bartering over surplus crystals made available by the aforementioned chairman. "There's a swindle involved," said one member, "but I'm a swindler, and the fiddler in chief just looked on stroking his nose and selling more crystals.

The reason for the absence of Les from the meeting was that he was in Brisbane trying to have himself an Irate Radio Inspector who would be forced to have him work on frequencies outside the band—and him the President too! The solution—too many ergs in the grid circuit and easily fixed, but how about the official gentleman in Brisbane?

Van had attended the meeting as well and was fined a large sum for being late. Afterwards the fine was waived because everyone was so pleased to see him. He was able to tell us all about his new employers who only allow him to work at night. It is a strange honour that Gordon 2ZSG is engaged on a secret project which looks uncommonly like a 6 over 6 skeleton slot for 2 mx. It is said it will replace his t.v. aerial when the new station comes on the air at about the same time as you read this.

I am only able to write kind words about Bill 2XT since he gives me such good signal reports on the Monday broadcast. Anyons going to Bill's shack is advised to wear sun glasses as he is dappled by the exact gear displayed there and rumours have it that a Wagner transceiver is on the way. The boys are going to give him some wire netting too—to keep the ducks out of harm's way.

Construction wise, none could be busier than Stan 2A. However, he has built a new driveway for the car and not some new r.f. propellant which occupies his time at the present. Still he manages to get on 2 mx at times as does Ian 2ZIF even though very busy with the new peddler. If that is the correct term. Ian also has agreed to take over John 2ZG's place as social secretary since John has had to answer night service calls made by the friendly viewers. This has curtailed John's other activities, but we hope to see him able to get to meetings once in a while.

Rodney 2CN claims that the reason for the excellent signals which emanate from his QTH is the careful construction and use of a s.w.r. meter. He is also a proponent of the t.v. transmission as well. One would think he would see enough at the large white building under the hill. How true I cannot say, but Neil 2ZCU was reported to be back on the air before he had his first meal after his return from hospital. He certainly looks to be making a splendid improvement and was busy enquiring about crystals the other night.

Reported to be the most potent VK signal is the U.S.A. 2ZL. He is still busy looking for parts and has recently won another venture first described in these notes—failed to work and as a result he was marooned on the Phenyl Bay island. The bow the aerial is still above water level though and what an excellent earth mat all this water makes! The DXer is still being heard on 20 m. and 40 m. DX Competition for VK. Should you care to visit a modern s.s.b. station there is a visit to Jim in Toronto is a must, if only to hear the ease with which DX is worked.

We wondered why it was that Bill 2ZL had not been heard for a few weeks. The reason is that the receiver he is do-it-yourself venturing first described in these notes failed to work and as a result he was marooned on the Phenyl Bay island. The bow the aerial is still above water level though and what an excellent earth mat all this water makes! The DXer is still being heard on 20 m. and 40 m. DX Competition for VK. Should you care to visit a modern s.s.b. station there is a visit to Jim in Toronto is a must, if only to hear the ease with which DX is worked.

(Gercha PanSys.)

Sherwood, our high power modulator specialist, is really sticking out his neck this time. He has forecast that he will definitely be on the air before January 1st. "Only a few more soldered joints," says Sherwood, "and I'll be ready to go." But to where he did not say. That finely engineered heap of American rubbish which he was seen driving the other day did in fact take the Cessnock boys. Cessnock are back while in hot pursuit followed the municipal dustcart. Four sets of pedals are fitted.

On the associate member front there has been general disorder for the past few weeks. Allen went to live in Maitland just so that he could have a red telephone, and Les left

Marmong because he ran out of earplugs and could not stand the noise. He has gone over-seas to Stokton in fact, and will still have to beat the ferry across on his bike. Belmont, Bob, Max and Ross are still busy doing compartmentalized problems involving Ohm's Law and getting them right too. Bill Brown hit the headlines "F & H" and Dunc, the cigarette smoking bricklayer, still whistles Morse because he cannot afford to buy a key. Well that's progress for you. Marmong will really come to the fore in October for the Annual Field Day which will be held there this year instead of Bischells. Keep your eye on these notes for all the details.

And that's the roundups for another month. Letters of complaint should be addressed to me at whatever address you like, or, as at the moment, you can do it in person at the next meeting together with all the other chapters mentioned in these notes. How about coming along? Room 15 in the classroom block is our usual meeting place and you'll find us there on the first Friday in June—that's the 7th, and the exact location is the University College, Tighes Hill. We guaranteed an interesting night and a special bargain which you could take away! Do I bear agreement? 73, 2AKX.

#### CENTRAL COAST ZONE

On Wednesday, 8th May, the weekly radio classes of the Stockton Radio Club began and with 14 enrolments it is hoped that these fellows to qualify for their ticket. Bob 2IN, John 2ND and Gordon Prester are organising the course and various officers will assist. At the May meeting meeting our good friend Joe 2JR lectured to us on "Radiation from the Antenna," presenting some new information on a most important subject. Wally 2IN was on the Antarctic in 1911 as the wireless operator of S.S. Discovery. Mawson's expedition. Some of the privations and achievements of this expedition were graphically shown in a documentary film "Antarctic Pioneers," recently shown on Channel 2. The film and documentary were completed by Captain Frank Hurley a couple of weeks before his recent death.

Alec 2AAK and VYI Mona are making a quick trip to Vancouver during June and July. We were able to drink their health before they departed by ship. We hope they may some interesting and useful gadgets in those far fields, rather greener than ours. Alec makes good use of his excellent 2 mx location and has regular sheets with IVP Canberra, which is nearly 200 miles. Alec uses an RT37 with a transmitter to convert the receive signal to 144 Mc. These can be read easily on a 144 Mc. Command rx with crystal-locked converter. Other active 2 mx stations include 2RU, 2RF, 2ZGW, 2ZGG, 2AFH, 2FF and a score. Three fm. sets and these will soon be fired up on the first VK2 emergency net frequency 146.0 Mc. With the small sealed crystals and a miniature switch it should be a simple matter to convert single channel sets to three channels.

For VK2 has been holidaying in some time in Brisbane and has been working on time with Doug 2ASA by mobile s.s.b. transceiver on 7 Mc. At 2ON, the Drake 2A rx has been pressed into extra service and functions nicely as a transceiver when fed into the phasing extender (generating sideband at 455 Kc). The benefits of this system are self evident and anyone planning an s.s.b. exciter should keep this in mind. If done carefully the construction is not complicated and the freedom from netting worries is quite an experience. It is noted here that the stability on warm-up of the Drake 2A is 3 or 4 times as good as the HT32.

Geoff 2AI has returned from a holiday at Mt. Gambier. 2AI is still oscillating around the State like a bee on a bonfire, actually having a time on a walkabout on 7 Mc. sidebands 2AFH, 2AFZ, 2ADZ, 2ASA, 2EH and 2AKX have been heard on 80 or 40 metres.

A visit to the Federal Convention at Crows Nest with Keith 2AKX and party was quite an experience. The atmosphere at the Wentworth Hotel was most enjoyable. Meeting many interesting Hans from other States (and one's own) is an opportunity not to be missed. We do appreciate the efforts made by the various delegates who come so far and spend so many hours to co-ordinate the policies of the Amateur movement. 73, 2ON.

#### VICTORIA

After so strongly stressing the fact that Council meetings would, in future, be held on the fourth Wednesday of the month, who mistook the last meeting night? Yes, yours truly. Consequently can now only report matters secondhand, and my highly paid spies

have given little to work on. This was the last meeting of the then existing Council, and as our Vice-President had left for Japan, Michael Owen acted as Chairman. Michael reported in detail on the Federal Convention recently held in Sydney.

One matter on which Council would like comment is the proposal for exclusive use segments of the bands. The segments suggested are: 1800-1810 Mc., 3.5-3355 Mc., 7.0-7.025 Mc., 14.0-14.1 Mc., 21.0-21.15 Mc., and 26.0-26.20 Mc. If you have any thoughts on this matter, please drop a note to Secretary.

Nine applications for membership were received and these were recommended to the May general meeting for acceptance. Details further down.

The Annual Dinner has been tentatively scheduled for 8th November, same place last year. This will enable preliminary arrangements to be made. Full details will be available to all in due time. Married men should lodge applications for leave passes immediately unless they intend to take the right thing and take the XYL along. (A much better idea.)

New Council for the coming year includes four new members, to replace those who are globe trotting and those who for various reasons are no longer with us. Only nine nominations were received, no election was necessary. The new Council consists of VK3 2OR, 3UI, 3YQ, 3ACS, 3AFJ, 3AQF, 3CZC, 3ZEL and 3ZIO.

One problem which Council faced was the fact that those holding Z calls were ineligible to operate the low frequency equipment at 3WI and volunteers were required for the broadcast roster 3ATP, 3AVV, 3AEL and 3QV indicated that they will join the roster. Gentlemen, add your names.

The Division has been invited to supply a working exhibit of Ham Radio at the "Wonderful World of the Young" Exhibition from 20th to 26th May at the Exhibition Buildings. Although the leave little time for preparation, it was considered that this would be a wonderful opportunity to publicise our hobby, and we would accept the invitation. So much for the moment.

The Annual General Meeting was held on 11th May at R.M.T. The general attendance (at least so I'm told). In the absence of the Vice-President, Michael 3ZEO acted as chairman and presented the annual report, followed by the treasurer's report from 3YQ. The refreshments were served in the name of those new on Council and invited to make recommendations for President, etc. The recommendations were: President John 3OR, Vice-Presidents, Michael 3ZEO and Ken 3ACS; John 3UJ fell for the Secretary's job.

New members admitted to the Division are: David, 3KXN, 3KXW, Fred, 3DID, 3EJ, John Wilson 3ZOG, M. Foster 3ZOL and P. Carter, who is awaiting a call sign—all full members—and R. Flanagan, D. Bradshaw, C. Elliott, N. Carroll and R. Cornley all for various grades of Associate membership. We welcome all to the Division and let us see you at the meeting.

The June meeting will be held at the Rrooms, 478 Victoria Parade, East Melbourne, when a talk on the subject of "F.M." will be given by John 3ZEL. Smoking is permitted in the rooms, supper will be available, the bar will be open, and best of all there are no parking problems. We are looking forward to a record attendance as this will give those who have not yet seen the rooms the chance to do so.

Holidaying on holidays are very much out of touch with what has been happening, but have gleaned on very good authority that SPS is not on s.s.b. and was not contemplating starting drift stations but having listened to an hour's talk from a VK3 2KA, I am sure I will be tempted (TALK ME BACK!) This is subject to him learning to resolve it or somebody presenting him with a Drake 2B or similar rx. By the way, the old boy, no Command rx, was well available in New Zealand.

Now for Zone notes, although the N.E. Zone let me down last month by not reporting their highly successful State Convention. 73, 3AFJ.

#### STATE CONVENTION, SHEPPARTON March, 1963

They came from near and far, the members of the Victorian Association. Assembled in 3SR front office to receive their dog tags and accommodation details. At 4.30 p.m. most returned to hang their hats up in the 3SR auditorium for the business meeting. Nobody yelled "fire," so the meeting continued until about 8.30 p.m. The place was full with about 80 members, 19 of whom must have been smokers and there was no forced ventilation.

A Ballarat member, Eric Dalby, passed beyond the vale a week or so before this. Three of his closer associates prepared his gear into lots and brought them along to be auctioned

off at the Convention. McFingelstein Battick modestly confessed that he was no auctioneer, but did the job just the same. After this amateur spectacle was all adjourned last assembly the Hotel Australasia had a buffet style dinner. Being quite a warm evening, cool drinks of many varieties flowed freely, but personally I did miss the coffee (So did many others—Ed.) This is an example of an overall social gathering in the best possible planes.

There were an estimated 80 at the Dinner. When the tables were cleared, the reps. of several commercial firms brought in their wares for the boys to drool over and drool they did with gusto. Most of the boys were assembled at the GMVE station at 10 a.m. on the Sunday morning, where, for many, the tricks and technicalities of a t.v. studio were first revealed. At 11 a.m. the boat and treasure hunt were set aside; but now the presentations did and did not reward our efforts of planning.

Then came the determining of the car phone f.m. unit with the highest field strength. We thought Hdg. was to supply the f.m. meter, but he would supply it. John (Johnnie) Collins rep., Mike SAGA, displayed characteristic Radio Amateur's resourcefulness in producing a sensitive v.t.v.m., a length of wire, and a spool of three-core. Entrants drove their cars up and down so that their aerials were measured 10 ft. from the v.t.v.m. pick-up. Ron 3OM won the prize, with a relative reading 20 per cent higher than the next highest.

The bring-your-own or buy-your-own lunch was eaten, we progressed out to the Radio Australia studios for a look at the emergency studios, audio input equipment, programme control, the t.v.'s and aerial selection desks. The boat race was commenced in the short fields of 10 m. and 50 m. trials. Votes of thanks were uttered and those not interested in more disposes junk soon departed for home. Those keen for more disposes went out to the front lawns, whereupon Abe McColl Battick had to leave his chair to rearrange the items available. In the atmosphere of comradeship the reserved and extraverted were soon scrabbling through boxes of crystals. Although it was a no-holds-barred affair, I am pleased to report that throughout the session all who should have been others out of the way did so in a gentlemanly manner.

Conventions come and go; claims are always made that this was voted a success, and that's about it. Yet here, Vicksburg apparently do not believe this about the Convention here at Shepparton, however success or otherwise, it was the culmination of the work and brains products of the Shepparton and district members, who did their duty in the love of the hobby and in order to maintain goodwill for the North Eastern Zone. 73, 3ASY.

#### EASTERN ZONE

The Eastern Zone held their annual Convention on the weekend of 26th and 27th April, at Warrnambool. Thirty-four members attended, including a visitor from Melbourne. It was a roaring success.

The dinner was most enjoyable—it was claimed by some to be in the State Convention class. Bert 3BE is our new zone representative. Vic 3AWL, the rep. for Bill 3AMH. Zone activities for the year were discussed and a comprehensive discussion to seal our emergency communications network that we are setting up, using 2m and 2m fm. and 2m fm. for setting up a temporary control station in Central Gippsland (80 and 2 mx fm.) at 3QZ's QTH and have subdivided the Zone into three sections, west, east and south—each to have a section leader.

On the Saturday night a general meeting was held on the topic of the use of a control procedure and the use of a control station for our Zone hook-up, both on 80 and 2 mx. There was also a display of commercial gear that helped to inspire interest amongst members.

On the Sunday afternoon the family went along to the Picnic at Picnic Point, near Dooen. Our next Convention may be held at Bairnsdale around 27th and 28th April, 1964.

Activity is on the increase in the Zone, both amongst old members and up-and-coming members. Jack 3AJK and his family had their holiday motororing to VK5 in April. David 3DY took a quick trip up to Sydney and George 3RZ had his family holidayed down at Anglesea during the last two weeks in May.

Rex 3VL, originally from the Eastern Zone (Leongatha), who was operating portable from Chelsea, during the first week of May, was able to return to the home of the East-Gippsland stations on 144 MHz. Well, 3ARZ and 3ZDF. The Zone also heard Bill 3ARZ.

3ANL Morwell High School, is still active, operated by Mr. Dale, and their membership is increasing amongst the students. I must add that the Morwell P.A.A. group visited George's (3ZCG) shack at Morwell on 3rd May. Twelve were present and they were introduced to Amateur Radio, told of the advantages and assistance that can be given

to the community by this hobby. They were very interested, most of them spoke over the air to the other Eastern Zone station, including Bill 3ARZ.

Remember, Zone hook-ups are: 144 Mc—Friday evenings at 8 p.m.; 3580 Kc—Sunday evenings at 8 p.m. Also, a Zone Family Field Day and Barbecue (perhaps a demonstration of 80 mx prototype transceiver for the emergency network) to be held at Primate Park on Queen's Birthday, 16th June. 73, 3ZCG.

#### WESTERN ZONE

News this month will be scarce due mainly to my inactivity. I had quite a bit of news but decided that there was more for me to say if it had been covered by Rodney SZCD, who with Tony 3AZA have been regular visitors to Western Zone Conventions.

Rodney is doing commercial operators' courses and is c.w. up to about 50 wpm. He will soon be throwing away his Z call sign. Tony is busy with house building and it is that, and not married life, which is keeping him off the air.

Met Chas 3AB at Kiata and learnt that he would be making another trip to the Islands. On last week's hook-up we interrupted Chas, with his packing. Radio gear was the first thing packed. The boat was leaving on 19th May, so by the time this is in print Chas and family will be in new QTH. Hopes to have same call sign as before.

Herb 3NN gave news from Yanac. Had misfortune to lose mast supporting the 80 mx antenna. Congrats to George 3ZC who was allowed call sign of 3ZCZ. Roger 3ZCZ to hear Merv had to spend a few weeks in hospital, but pleased to know he is home again fit and well. Lyle JASA has also promised me that he will come on the air soon. What about giving us a surprise one Wednesday night?

According to Alie 3AC, Trevor and Bob Gibson must be planning a trip up the Birdsville track I think. They have been granted a portable licence on Flying Doctor network. Half your luck better. I think you both should get your boat down and start getting studying and get your tickets. What about it?

Wilson 3AUJ seems to get around quite a bit. He has been heard portable and mobile from several different locations. I called 3WI recently and reported that he had been up and down. Think I offend some when suggested that feed line may have been touching. The trouble was found to be that 40 and 80 mx antennae were touching.

Report of new type of antenna from a VK5. It was called a "beer-can vertical"—must find out more particulars. 73, 3ARM.

#### NORTH EASTERN ZONE

The Zone hook-ups of late have been patronised by about eight members give or take. The reason for this difference is likely to be that there is very little to talk on and like most Amateurs, N.E. members are reluctant to blow their bags about their activities. There has been a little discussion on when we should have our annual State convention. The State one clashed with our town and after it we all had had a cropful over conventions.

3AUL has been, for a couple of weeks, been strangely quiet. Missed two hook-ups in the last couple of weeks. 3ALP has been doing the right thing in that he is going to feed into the system news and doings of local v.h.f. activity. You know, I got a terrific roasting because I had failed to put notes in for April. Over the air, too. I felt dreadfully embarrassed.

3VL has been to hospital and late April was convalescing and enjoying some occupational therapy with a portable outfit. 3IG has been tinkering away at his 2m fm. rig. He's done the right thing in that he is going to feed into the system news and doings of local v.h.f. activity. You know, I got a terrific roasting because I had failed to put notes in for April. Over the air, too. I felt dreadfully embarrassed.

Nothing appeared with reference to the State Convention. From the month of May nothing appears. It was left to me. I thought that the Divisional rep. would write it up. Like the field strength meter, nothing happened about it. Soon after the Ballarat State Convention, Bert 3AHZ had won the Kimberley Trophy. But, what about how low is it going to be under repair and when do we get our dukens on it? The previous holders must have kicked it around a bit, what? 73, 3ASY.

#### MOORABBIN & DISTRICT RADIO CLUB

Control stations for the 3.6 Mc. (very approx.) net on Monday nights are now rostered so watch out for different types of organised pandemonium from night to night. Why not join in and contribute some uplifting? Dis-

course—technical or otherwise. To help restore order and ensure a fast pass around in the net, the Club is anxious to obtain a supply of two minute recorders (two track) for listeners' votes!! Preferably applied with automatically applied, snap action, non reversible operator de-sensitizers.

The next tx hunt is on Friday, 7th June, and starts at the clubroom around 2015 hours. The tx frequency is 3518 Kc. and is automatically keyed with the club call sign, 3AFPC. These are really good fun, particularly the post mortems and experienced recounting when you turn up the band and are listening to the local gendarmerie too—memories to be used soon (worth buying), ask Peter 3APD. Visitors are all welcome, especially those with good "sends" equipment, the car with least noise, etc. from the word are the car with least noise, etc. Learning from past experience I am definitely taking along a small outboard boat next time to ensure getting to the finish. We ended up on the wrong side of the Yarra.

The visit to the Club recently by members of the S.W.A. was a most interesting jamboree from the level of QRNG. A few contacts were made on 80 mx and several commented that it sounded on the air like feeding time at the zoo. Harold 3APQ (thinking of the last time didn't really want to mind) Harold had a very nice home-built on display and it really works, despite remarks some time ago made by a certain club member (who can be left nameless) but who lives about 1850 radio miles to the north east that "I hope you will be re-represented by his wife and don't let me hear about it". Harold's rx (Hope that that distance is right) Harold has generously undertaken to build a similar rx for the Club, and it is already part constructed.

Another project for the Club, organised by Eddie 3AQ, is the net tx and rx. So we will really be in business shortly.

Hear that Alf 3LC is putting up a 10 element bird perch, yagi type, on top of his 58 ft. mast to improve his 2 mx sign. What with quite a good take off at your new QTH as well that should really stir up the a.v.c. wits. Alf 3LC's very rep. are the 3ZMQs. Alf is re-building his 2 mx gear and Graeme 3ZMQ has been absent from the band with YLI (Something akin to TVI, only worse, they tell me.)

Well chaps, keep these forthcoming events in mind. 7th June, tx hunt; and with the YLs and CXLs come along to another of our excellent social nights on 22nd June at the home of Treasurer, Peter 3XK. 73, 3ARD.

#### QUEENSLAND

The Annual General Meeting got off to a good start and being a progressive State, and this Branch owning more than four chairs, everybody could sit down and be comfortable. I suppose I could gild the lily and say that the place was crammed, but that there was only room for a dozen "out". But, we had more than four chairs. Now I wonder what scribe will attack me over that. To get back to the meeting, 60 members were present. During the year the membership of the Queensland W.I.A. rose by 165 members, which speaks volumes for the various methods used to get new members.

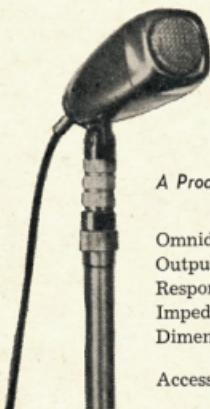
George 4GG was present. He has been absent for some years, but has always been a support. He says that he is "re-entering" the W.I.A. again, not rejoining. George was presented with the prize he won at the Convention for the greatest number of contacts during it. Eddie 4QY also re-joined in, after a spell at Ipswich in the past few years.

Congrats to Allen Smith for making a very fine field strength meter, complete with power supply. I've been told on very good authority that it is a beaut. Jack 4JY is at home getting over an operation and thinking of pulling himself together to get back into the W.I.A. There, I have always been under the impression that it takes an operation to separate Jack and his rx. Len 4L1, Bill 4WXY and Peter 4PJ are trying to raise some interest in the little-used 2140 and 2820 Mc. bands. Sam 4CZ is either starting a covekay, or else he has moved operating where I hear him. He is using a dipole on a tower. And talking about towers, Harry 4HN has been busy scraping the old ones. Now it isn't easy.

Sometime ago there was quite a whinge about disposal gear, to the effect that QSL card wasn't doing anything about it. Well chaps, a lot of work was put into this and some gear is now available. But, the price is increased, or very considerably. These items are very reasonably priced. The valves will be made up as mentioned in "QTC", but the response has been that poor that it looks as if everyone that has put in for some will be able to



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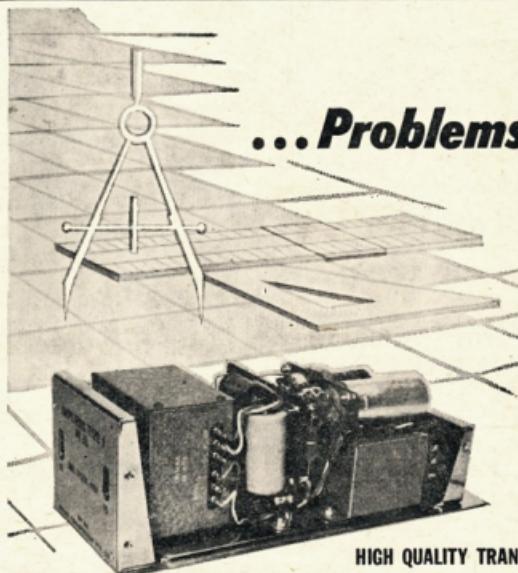
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get just what they have asked for. This is good for the chaps that want this gear, but it is very unsatisfactory for those who have to get the gear and dispose of it. So how about it? If you don't want gear, OK, but don't whinge about it when you can't have it.

Al 4LT, who was ill for a week or more after the Federal Convention, gave a well received and interesting report at the Annual General Meeting, and we feel we are getting closer to understanding the advantages of both. The Federal Executive boys really do a good job and Al says he now has a lot of respect for them.

A.O.C.P. classes started on 10th May at the International Broadcast Rooms, School of Arts buildings, Ann St, Brisbane. Entrance is down the side of the building.

The recent Convention at Alexandra Headland was held there for the purpose of encouraging Wide Bay and Burnett club members to attend. The attendance from that club was very poor. Possibly there is a good explanation, but any Convention is important these days. Apart from the fun you can have, there is the serious business of discussing how to hold on frequencies and the pooling of ideas along those lines.

Pleaseed to hear Stan 4SA on the air again after being discharged from hospital. Del 4RJ, another old timer, is still in hospital at Green-slopes. The "Kingfisher" group is still going strong with the new members coming in on young Alf 4OL, who occasionally gets quite cheeky. Don 4DZ takes part from a sick bed. Who are you kidding? Apparently he isn't married! Bill 4WS, who was ill for some time, is better now, and then and is steadily improving in health.

The Easter Scout venture, in co-operation with numerous Hams in Brisbane, went off very well, but no details are available. Twelve young Scouts were kept busy. The Committee got very busy when worried about various stunts, and Bruce (no call sign given) couldn't find his arm after carrying one for, was it 12 miles? Carlo 4ZCV put in some good work getting the Communicators moving.

Getting back to the general meeting, the first report said that we are still in the black, but just paying our way. I am led to believe that the Division has never been in such a sound condition.

Where is Peter Rabbit, 4PR, these days. About this time you got that tx finished Jim Things happened fast in VK4K. But as it's the top state, that's understandable. Just got an other letter from one of my cloaks and dagger men. Sam 4CZ, who has pulled his dipole up and now has a TEE. Thus far he has not had the tower. Alf 4SS, because of pressure of work, is relinquishing the DX page of "A.B.", but will continue to supply DX news to 4WI when he can find the time.

The Central Queensland Branch is doing quite well these days. They are starting an A.O.C.P. class with 23 starters. Their President (Frank 4FN) is climbing the wall, sorry Frank, climbing masts. He is that pleased at a certain mast in North Queensland breaking, so he has to reposition it, then pull up his mast and glories in his position of having a higher mast. Never mind, this certain broken mast will be higher and bigger and better in the not-so-distant future.

Joe 4OL is busy building a rig and should be on the air soon if the enthusiasts holds off. The Kookaburra section, each comprising of 4Q700 is now divided between 80 and 40 mx. Quite a lot of activity on 80 mx. Was listening to Steve doing a good job pounding out Morse to learners last Wednesday night. He was excellent. However, he was not at 80 m.m. I didn't have very much trouble in following it. Steve 4BB sends copperplate c.w. John 4RZ takes the cake for the mostest beams. He has a 4m. dipole, 6ft. 9in. of it, on a 4m. tower. He's mad, not to mention his moustache beam. Bill 4WV had a very lucky escape from death a few days ago. Bill was on his way south to enjoy some leave and going down a rather steep road, his car got out of control and the next thing was tearing down a steep gorge after leaving the road. Bill just crouched on the floor and hoped for the best. Over £300 damage was done, not to mention the complete loss of his mobile gear. Apart from a bruise, Bill was unharmed.

Pardon me running around these notes like a beheaded fowl, but it's the way I collect notes, write them on bits of paper, and then hope I can get them in order later, but still will keep you on the ball trying to follow me. Some more notes. The Central Queensland Branch. They now have 43 students to start. What are you blokes trying to do, I get into enough trouble with the Editor chopping my notes down without any assistance from anyone willing to help. They are a little disconcerted. They have a big building fund, and to make a short story longer, what with donations, etc., they will be given £569 if they find £150. Hope I've got it right Frank.

Well that's the lot for now, so cheerio and see you next month, ditto to You-Pan-Xay, thanks for reading my notes also. — Uncle Xay.

#### TOWNSVILLE AND DISTRICT

Sorry chaps for the notes not appearing since Feb. "A.B." but as 4 Uncle Xay was promoted to the rank of QSL master, he was unable to do these for me as of yet. Since my last notes appeared I have partaken of the hospitality of the Apple Isle boys. I must say that while in Hobart I was treated as a V.I.P. and my thoughts go to all down there in organising the trips around the island. The scenic places as far south as Fort Arthur, the old convict settlement. Unfortunately I missed the snow on top of Mt. Wellington my two days, but was treated to some tall tales of how deep the snow can really get on top. Even had time to go along to the v.h.f. meeting and meet the ones I never seem to hear on 50 Mc.

While in Bourne met my namesake, VK7ZA. Would have liked to have worked him for QSL card for his 100 plus but he is situated in only 144 Mc. so no chance at that distance. While in Sydney had the pleasure at long last in meeting Bill 2AQQ, who is often seen wielding the white cane, and he would like to use it in the future. He is a good bandman and I met the old gang including 2SG. While in Cairns at the end of the long travel met Claude and Alice 4ZY and enjoyed the usual cupspa before going around to Zoo and Basil 4ZW. From there I headed to Broome, the Journey and visit old timer Charlie 2ADP. Charlie still burns the midnight oil in speaking to Africa and U.S.A.

Locally, Bert 4LB has gone to Magnetic Is. for a month's leave, so I'll have no QRN for awhile. Ted 4EA has a mighty rx in the making, and will be ready in a year to compete, in between times from the garage or idiot box. Alan 4BE making an adaptor for fm. so he can listen only to the t.v. sound. Nothing doing here on the v.h.f. bands, while 2AS is still active on 2m. as the m.t. seems to have mislaid these bandsmen, the commercials are not heard above 24 Mc. with their power, so what chance have we got in working 28 Mc.

Hope to hear Frank 4PC soon as I saw a parcel was being sent along, so he must be getting the urge to work again. Sorry Bert, I cannot work you on 7 Mc. due to the extra heavy QRM from local private enterprise on week days. Heard Owen 4OV working the boy from the mulga, 4FE, whose time in the bush is fast drawing to a close and he retires to city life. 72. 4RW.

#### WIDE BAY AND BURNETT BRANCH, W.L.A.

Helped to keep one of the seats warm at the Wide Bay and Burnett Branch meeting on 29th April at which the boys from Bundaberg, Maryborough and Gympie attended the roll call. Main item of business at the meeting was to work out a satisfactory scheme to maintain the interest of the boys in the Branch because of the long distance that have to be travelled by some of them, as the town is nearly 200 miles from the southern to the northern borders of the Branch, and it is a bit of a strain on the boys to have to attend a meeting every month under such circumstances. Therefore the Gympie, Maryborough and Bundaberg each form a club of their own (Bundaberg already has their own), attend to the business of their clubs at the monthly meetings in their own home town, and all three clubs meet once a month at the same place at a central meeting place to discuss the affairs of the Branch and have a special feature such as a technical film, lecture, or a transmitter hunt, etc. This arrangement made everybody happy.

Gordon 4GH and Bill 4WV plan to start a class at Maryborough shortly. During the luncheon break in the meeting, a free-flying radio-controlled model plane was seen cleaving the sky nearby, so the boys took themselves over to have a closer look. The editor explained that he knew nothing about radio, mainly what he had read in magazines, etc., whereupon Gordon 4GH outlined to him the advantages of doing a course, so he will be

one of Gordon's pupils in his A.O.C.P. class. See what I mean. If you go looking for them you will find them.

Chips 4H has another class going in Gympie, most of them live out of town, some come from 30 miles away. Mr. Tomlinson, who was in the last class and is now hopefully awaiting results, came 40 miles each week. These boys are like a certain brand of mustard around these parts. I have heard of a man still looking for a place to land, and before Rusty 4JM could get out the shot gun it landed and presented Jocelyn 4JJ with a 10 lb. 7 oz. harmonic. It will tear the pants off her when she wears it, but she converges much, as both type wear them these days, but you know what I mean. Congrats to Rusty and Jocelyn for a good job well done. 73. Fred Cox.

## SOUTH AUSTRALIA

The monthly meeting was held on 29th April to a rather small gathering. Some business was transacted and a report of the Convention was given by the President, Phil 4NN, at the meeting.

At SMP they have the lecture for the evening on the design of modern rx's. He brought along his own rx for demonstration purposes and also to show that he practices what he preaches. He has written his lecture, the questions flew thick and fast. I've been to lots of Institute lectures in my time, but I've never heard so many questions. Eventually everyone was satisfied, and after a pause more business was transacted before the President closed the meeting closed.

Some of those present took the hint, quite a lot didn't and they stayed and talked—and talked! Finally, the caretaker of the building turned up with his apprentice—an alsatian, the aptly named "Fido", and a Shetland pony. I had a chat with the caretaker while the pooch wandered around the meeting room introducing himself to the members. Another record bit the dust that night—the time it took to bring a large roll of paper we should make him an honorary bouncer, he and his appintion official bouncer. He'd be worth his weight in ham sandwiches! Notwithstanding the above, he's friendly and a very nice dog—so I'll let him stay.

From this point, Warwick takes over. He was still away on the meeting night and blackmailled me into coming out of retirement. Hope you had a good holiday, Warwick, and welcome back. SCA. (Just a minute while I sharpen my red pencil—Editor.)

Thankyou—Thankyou—thankyou. May I take the opportunity of expressing the thanks of the Division to Brian 5CA for so splendidly filling in during my annual leave. Not only did he compile the notes for the "Mag" but also took over the weekly notes in the daily paper for six weeks. If it may I would like to say so, performed the unworded task with distinction. Once again many thanks Brian. Take a bow.

Speaking for myself, I feel that someone should have taken him aside and instructed him in the duties of a relief editor. If they had done so, it is possible that my pride would not have been so badly dented. Not only did he outdo me in the daily paper, but he somehow outdid other members to get past the sub-editor's desk about 10 times. I have never even been able to do, and the quality of the notes left mine for dead. I have not seen the magazine notes yet, but am quite prepared for about six pages of news, aided and abetted by the editor. I have been told that the general membership stood in line to wait their turn to give him news and notes. Yet when I remonstrated with them on their lack of notes this month for me, they sneeredingly said "Well, we're not the ones that you have to back to size and shrink that big head of yours!" Now, of course, flattery normally has no effect on me, and flows off my back like a duck, but I assure those flatterers that my fountain pen has been red hot ever since the day that they should receive their just rewards. I hope!

Joe SJO called in to see me the other night to tell me that Joe 5JT was in hospital down Brighton way, having fallen from his tower with unsatisfactory results to his framework. At 71 years of age, I suppose he should have thought twice about climbing towers, but after all, I realise that Radio Amateurs never grow old. Hope you are doing fine Joe. Was I right about your age?

Received a letter from Frank SAE, and among other things he tells me that some months ago he wrote to the editor of the Alice Springs Youth Centre Amateur Radio Club, to wit, Graham Jenkins, had passed his Amateur ticket and would probably be going on to bigger things. Graham is now at the

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Adelaide University having a shot at his Bsc.E., and also won the A. H. Peake Bursary and the Commonwealth Bursary. As he had only just turned 15 years when he passed his Amateur exam he was not permitted to have the regulations go on the air, so he put aside his ideas of Amateur Radio and concentrated on his studies and came out of his Leaving Honours with five subjects, five credits. Now work, Graham, hope to hear from you also, not only New York Friends, but you also, if not protege letters out trumps like that. Thanks for the letter.

Whilst on my holidays at Oakbank, I was summoned to the local Post Office and handed my usual mystery letter addressed to me in care of the forwarding tenement. I was advised to receive for without fail over the last ten years and is probably the main reason why the local inhabitants of Oakbank lock their doors each night and peer in a decidedly scared fashion through the window. I have been able to pin down the sender. However one of the local gypsies allowed me to cross her palm with a ten pound note by the way, where is that ten pound note? and I am still looking for it. I could never find like that. Nowhere. Islands native with bones through their noses and Lord Howe islanders with Morse keys shoved up their jumpers. This seems to ring a bell somehow, but as it was going to cost me a further ten pounds I did not press the critical point. If I ever find out who this Arch villain really is, there will be quite a Hewitt and Cry after his skin. Very subtle, is it not?

Heard from Bart SGZ with respect to the University Amateur Radio Club which has now been formed and is active. I think, while because of studies, etc., plus the fact that the new engineering building is in the course of erection, which meant the aerial coming down for the moment. The SUA rig is in the process of being built and modifications made as somebody tried to improve the v.f.o. to the extent of confusing the issue. How tactful can I be? But all now is well, and by dint of much hard work and the selling of disposal gear, we are soon to be in a position to earn money for a new rx. Everybody is more than satisfied with its performance, especially as the aerial is only a piece of wet string at the moment. Heard them on this week on c.w. on the VHF band and the signal was louder than ever to me.

Over the past two or three years or so the question of renewing my Amateur licence at the local post office instead of at the Registry of Posts and Mortals has crept in my head and also provided me with both targets and ammunition galore. Early this year, to my dismay and sadness, the Department apparently wearied of the position and allowed me to keep the licence at the local P.O. and thus lowered the curtain on certain paragraphs each month in the magazine. Imagine my surprise and gratification to receive, just before my holidays, a letter from the Department, enclosing a copy of "Filing Every Notice" informing me that no trace of payment of my licence could be found and if I was still in possession of radio communication equipment and did not pack up, it was proposed to cancel my licence. Now what about it? I mob, I follow your advice and look like having my licence rubbed out! What do I do now Max 2ANZ? Anyway, I live to fight another day. It should be good for another three or more years. Yesterdays Yesterdays! Pay your licence at the local P.O. See you!

Jack SLR still enjoying his voluntary retirement, although he admits that his XYL managers to find plenty of work for him around the house. He has not been very active for some time now, but is tinkering with the idea of building up a small rig for 40 and 80 m.m. and renewing acquaintance with some of the country boys with whom he spent many pleasant hours in QSO back in the "good old days".

The annual fees for the Divisional membership are coming in very well for the new year, but in case anyone has forgotten, now is the time to come up to speed and become financial. Always remember that you are only a voice in the wilderness by yourself, but as a united Division your voice can be heard in the right places at the right time. I know you are all in a bind, but don't try and get anywhere with officialdom on our own. You are not in the race. Look at me. They even threaten to cancel my licence. You beauts—got it in again.

All the big things happen in VK5 when I am on leave, and this year was no exception. Al Scarlett and his wife paid a rush visit to our fair city, arriving by air on Wednesday afternoon, 17th April, and returned to VK3 on Monday, 22nd ultimo. And the same to you. A good fellow, his friend and XYL his friend's XYLs of course, were at the airport to meet him on his arrival, included in whom were Bo SBO and XYL, Johnny De Cure SKO,

Harry Cooper, Mr. Peake (2nd op. to Harry SHG), Bobby Bruce and his 2nd op. Pete Slattery, the mother and father of Bob, and several locals unknown to me. Pete and the local locals was Jack SJS, together with his XYL, and I was seated at his keeping my ear to what the wild waves have been saying, but I am glad I did because I shudder as to what would have happened to me if I had slipped up on that one. Bo Williams too. And his wife for a trial in the northern areas on the Thursday, with Bobby Bruce doing likewise southwards on the Friday, with Saturday being spent in meditation (if that is what visiting Amateurs do on Saturday). Sunday was an off day home.

QTH of "BO" at which the aforementioned gang were joined by Ted SJE, and I take it for granted that the conversation oscillated between the merits of ATC from Ted and LS. Me from Johnny! At any rate, on Monday, Mr. Peake and Bobby Bruce were among those waving goodbye, and Al for once in his life was speechless at the hospitality shown him.

Latest news from the Port Pirie Amateur Radio Club tells of their good fortune in acquiring their own club rooms at the Port

Pirie Aerodrome through the helping hand of the Council. Plans are in hand to organise working bees, etc., to paint the rooms and generally make it into respectable premises. The XYLs of SJE and SZE are starting to hunt for a queen bee to preside over the chairs, cupboards, etc., and a good time is being had by all. Two meetings have been held in the new rooms, and most of the business has dealt with the formation of a Youth Radio Club, the first meeting of which was held recently to the tune of 61 enrolments, much to everybody's surprise, only about 20 or so being expected. Now my spy, and a female one at that, stresses the point that in such ventures the problem is of course finance, and suggests that any of the city slickers who may be passing through Port Pirie at any time might like to drop off all those spare parts and pieces that have been cluttering up their choppers lately. Your phone call to Pirie 335 will bring someone at top speed to take delivery, and of course anybody who may happen to be in Port Pirie is especially welcome to drop in to either the senior club meeting on the last Wednesday night in the month, or to the youth club meetings which are held alternate Friday

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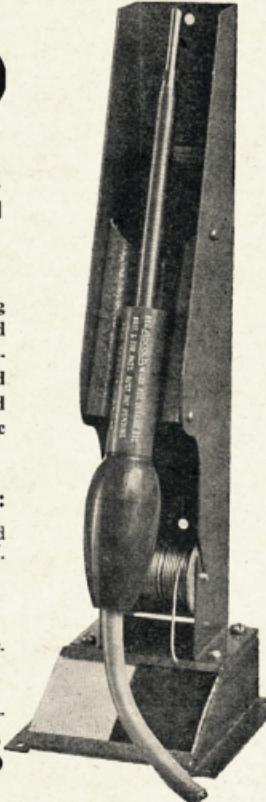
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nights. Well now, how is that? This club is certainly going places, and I hope that Ken will have completed his new house before us snatched a glance at this paragraph, because whilst it is hardly my answer to his challenge, it at least shows what can be done by a combined effort. Many thanks Pamela for the nice call from PanSy.

Stuart S5M can boast of a first class operator in the family and I don't mean maybe. His daughter Val is with the Navy up at Darwin and if all can be believed, wields a formidable array of strategic influences. Stuart has been able to say hello to Val on the odd occasion that she has happened to be in the shack of one or other of the boys in Darwin.

The VK3CH has at last found time to erect a aerial, having for many years operated on a piece of wire, and is tickled pink with the reports coming back. I have not as yet heard the signal, but it will have to be good to the ears of the VK3DXL crew, who were, although Col 5CJ, who lives two blocks away, has an S meter which can speak volumes!

Ron SVH, being in temporary accommodation, cannot find the space to set up his gear. However, when the new house is completed, the results of many months will be put into education.

Leo SGJ is staging a come-back and his tower has left the prone position on the grass and is now above the treetops. Nothing as yet on top, but at least it is in the right direction for future activity. Eric SZU is among those missing at the moment and my spy has nothing to report on him. Possibly a search in the c.w. section of the bands might disclose his whereabouts, but until then silence reigns supreme.

Dale SZER, Gary SZGR and Lee SZLS are all fairly active on the v.h.f. bands, and above all are solid supporters of the S.E. monthly meetings, and Col and Trev. Hutchinson, John Lehmann and Ben Hall, keep the attendance number up. The last mentioned three are anxiously awaiting the results of the last L.A.O.C.P. examination and should know by the time these notes are being read just how well they have trained. Lee is the "anxiously waiting" business, he recently became the proud father of a bonny bouncing baby boy. Naturally my internationally known warning of "DX before dishes" now becomes "N.B. baby, nippies". Pardon me for stealing your thunder Col.

Col 5CJ is still keeping his lunchtime sked on 7 Mc. and is in the process of building a new 150w. tx in an endeavour to compete with the members of the network. Is this known as "keeping up with the Joneses"? Careful, Col.

My espionage agent from Mt. Gambier gently draws my attention to the fact that the best way there is no v.h.f. band at all are Radio Amateurs, regardless of the type of ticket held! OK, OK, I will don my new suit of sackcloth and ashes, but I must admit the truth of that statement, even if nobody else does.

Usually manage to contact a couple of the gang at Mt. Gambier from Oakbank when on my holidays, but this year heard plenty of signals from the areas just over the border, but did find them. The Mount, incidentally, was the proud recipient of an illuminated invitation to the annual convention of the South Western Zone of the Victorian Division of the W.I.A. Unfortunately for me, and probably for the Mount, no invite came out before the date of the convention, and I could not accept their kind invitation. However, when informed of the sad news, the Secretary (Don 5AKN) suggested that as I was passing through Vic's "Ideal City" (his words, not

mine), it was hoped that I would meet up with some of the boys. Again unfortunately etc., etc., circumstances prevented my doing so, stops on the road. However, give it time Don, I might bob up at one of the meetings, who can tell? In disguise, of course, there is price on my head in VK3!

That's all I intended, I felt that I detected a note of regret in the challenge issued to me by Ken 1KM in the April issue of the magazine, because I used the words "getting on the bandwagon". If this is to be the case, I hasten to assure you that the no one is to blame. I have nothing but admiration for the scheme, and the efforts of all concerned. I used the words in the modern idiom, to wit, something new and therefore something of interest in all, regarding the challenge. I am a glutton for challenges, but under the VK3 system of running the Division, the Council and President make all the decisions as to who organises what and which, therefore I am not able to accept the said challenge without the permission of everybody knowing of my respectful obedience to that august body! Incidentally, in my remarks regarding the Brompton Boys' Club, the organiser was given the name of Joe SJ3A. It should have read Joe SJ3O and did let me know! You can say that again.

My holidays were split up into three sections, and after the second section I returned home to be greeted with the news that a VK4 had called several times to see me and was coming to VK3. Great was my delight when he reached. I beat a hasty retreat out of the city for a week or so, only to find again on my return that the same VK4 had called and would be returning. Now I ask you, how would you like to be called? Well, he had said in these notes re VK4's: "Anyway, I decided to stick it out and face the music, and I am glad I did. He turned out to be an S.W.L named Ben Hall, an extra good bloke, more than keen on Amateur Radio and a good ambassador for VK4 to boot. Nice to meet you Ben."

No sooner did I recover from this shock to the nervous system than believed it or not, I got a telephone call from a night shift telling me to be at duet at dawn next morning from an unknown voice who eventually turned out to be Ken 3AFJ, who had just arrived for a visit to VK3. I should have been prepared for him, as I had been told that he was in fact a friend of mine and the name Pincott had been haunting me ever since. However, burying the hatchet (not where it should have been buried), I invited him and the family for dinner, and rushing out and getting some get-well cards to post to VK3 after the lunch, I sat back and waited for my fate to overtake me. Well, it wasn't too bad, he brought along his army with him and great with glee, and my XYL and my grandson, and believe it or not, for me, and proceeded to charm the entire household with my grating my teeth. Before you could say boo, my XYL was rushing around digging up all my ugly looking plants from the garden and cramming them in Ken's wife's (Jean) pocket, or wherever XYL kept prizewin plants. My grandson was whispering in my ear at odd moments that Ken's daughter Judith and her girlfriend Margaret were better known in social circles as "The Dutchess and Little Margaret", were two "lubberly girls," and finally, in my upset mental state I had sunk to the level of letting Ken blow down my ear and the subject of all our sinking so low as to ask him for a diagram on the now confounded subject. Well, I can't go any lower down the scale after that, so I might just as well say that we thoroughly enjoyed their visit and rate them as good scouts. We hope

they enjoyed themselves and will come again some day, but please, not for a while, let me recuperate, recuperate, recuperate, and let salt to rub in my wounds. Ken delivered a present to me from the gang in VK3 officialdom, which he said they felt would help me to brush up my technical knowledge and get back into the air. What was it? It was a thick book, green in colour, smelling a bit mouldy, all about wireless ship travel, and er, and er, oh what do I care, it was the 1915 edition of "The War Book of Wireless Telegraphy and Telephony." Oh dear, oh dear, what a month! T2 de VK3PS—PanSy to you.

## WESTERN AUSTRALIA

Well, together with an Annual General Meeting, the first meeting of the year, the constitution that nomination forms be circulated among members prior to the meeting, and it was most gratifying to me, personally, to know that every member of the Western Australian Division regarded the same as unopposed work of such a high standard that they were loath to tear the sheet off and return it, with somebody's name on it who would be prepared to accept their responsibilities in the running of the Division, and for election to the Council. As I say it boosts my ego no end and an ego is a thing like an egg with an aught on it, but unfortunately it doesn't get new blood into the Council.

Talking about new blood, I believe we have a visitor from ZS land, Joeburg locality, who is taking his long service leave in VK and surrounding islands, at the moment using the call sign of VK6ZS and operating a KWM1 with a trap on 10 m.b.s.c.w. and watch out for what the old dog, Peter, can do.

S.S.B. reminds me that Ted 6JJG has been on 80 mx with the Suck Suck Blow and has much improved quality since the visit from Vic 6VK. Keep at it Ted, it's funny stuff, but nevertheless something new.

Wall 6AG is still not satisfied about this business of sending out a signal with no carrier and only half the number of sidebands that the best DX stations use in signal wears. However, he has started for leave, leaving the middle and calling it double sideband. Almost sounds like two times eight by seven plus six, doesn't it? I think a very potent drop anyway. Wall 6AG the numbers leads me on to Allan 6AR, who can frequently be seen on a DX station. I know this often happens when you press the key, but Allan has dozens of them. In fact it takes both hands and both feet and at least one knee to work all these, and Allan even wears his eyeshadow for it. All right, well I'll tell ya! It's a Hammond organ and you can actually hear all these frequencies! What's that? No! No, Allan will not be bringing it along to the meetings.

Individuals, Ron 5KX, was very busy time in Sydney for the Easter Convention, and spoke very highly of the arrangements made for their comfort. Congrats, to VK3! Believe it or not, was never very sure when the sessions began and ended, due to the talkers going on in the hotel bedrooms all sorts of odd hours. Over 30 agenda items were dealt with as well as general business and policy matters, so Far, I have enough to keep them going for another year.

Another of our flying Hams is Dennis 6AW who recently returned to duty after six months in the East. Understand that Dennis saw some color t.v. there, and by the time you read this, I hope he will have had a lecture from his boss.

Our Patron, George 6GH, is still regaling us with technical titbits on Sunday morning and George certainly covers a range of subjects, and judging by the comments has an interested and wide audience. All the best, George, and keep it up.

Here's one for the books. Reading the mail one night and heard Jack 6BU says his XYL is doing some study on the ticket and I understand she's the only one. Lance 6LR also has an XYL who is doing some study. Good luck to you both and no doubt Aline 6YL will be pleased to hear from you when you turn the rig with your own call sign!

Dover Katanning way we find Robbie 6XR has just completed a re-building programme in the home and now looks to the more serious and important things in life, such as t.v., s.m.b. and getting a signal on the ageing 160 m. band to Robbie's 160 m. jobs is repairs to the quad, a freak hallstrom last month exceeded Robbie's calculations, causing fracture of some of the copper wires. Once more up the tone, Robbie.

Fran 6XF faces the opening of the golf season this month, but after too many high scores and too many lost balls, we are betting he will be back on the air very smartly.

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Herb 6XO, a regular on 80 mx these nights, is putting the finishing touches of solder to his new a.s.b. rig. Herbie quit his job and was laid off last month, but is back in working order after using several packets of hand-saws to lash the tower together. Herb states "She's up forever now, string just won't hold a tower up."

Clarrie 6XG has been using up 90 mx lately and has packed his case and drifted eastwards, to attend the I.R.E. Radio and Electronic Engineering Convention in Melbourne for a week, then some tramping around Victoria and South Australia for a few days. T3, 6LS.

## TASMANIA

I record with deep regret the death on 8th April, 1963, of Ted Evans, VK7TF, after a long and painful illness. We extend to Mrs. Evans and family our sincerest sympathy in their loss. Ted, at various times, had acted as President, Secretary and Vice-President of our Division and had also been an active Amateur as well as a keen professional radio technician. His assistance in such Divisional activities as the R.D. Contest and the Jamboree of the Air will be sorely missed.

Crosby 7CW has erected a more suitable antenna, particularly for the 80 mx band. Crosby is also in the course of constructing an a.s.b. rig. Snowy 7CH and Ken 7KA spent Easter afloat on the yacht Mooringa, as well as the first weekend of May, tramping or another year of sailing mixed with operating mobile marine. Snowy was delighted when he worked a PZ station (I have never heard one) during Easter.

Ted TEV has returned to VK7 after the Federal Convention in Sydney, looking forward to the VK7 DX contest, and enthusiastic about the Youth Radio Club scheme. We hope his enthusiasm will inspire a considerable response in the rest of us here in VK7.

April must have been a peak month for mobile operation, but May will very likely be better. Bill 7LZ, Peter 7PF, Graham 3ZIP, Michael 7EAV, John 7JF, Lee 7KCO, Len 3LN, David 7ZAI and Ric 7ZAT were all heard operating mobile, as well as Snowy 7CH and Ken 7KA mobile marine. These activities can only do good and the band activities have reflected a considerable improvement as a result.

Congratulations to Sam 7SM on receiving the certificate authenticating his W.A.S. Service class. Sam is doing particularly well in the Northern Zone. Bob 7ZRF and Graham 7ZBR are both active on 144 Mc., and these young lads are looking both VK3-wise and south. Amongst older Amateurs, Den 7DK is very active on 2 mx and has developed modes of transmission ready for 21 Mc. DX. Phil 7ZAX has the new 6 mx gear and new shack fully operative. I also hear that Jack 7JB will very soon be driving an 81 to 15000, but in the meantime he has exceeded the 807 in his basement rig with a HQ4EA, with most gratifying results. Charlie 7KS has the rx

side of his mobile rig operating near perfection now.

The monthly meeting of the Zone was held a little later this month because of Easter, and it was a very interesting meeting. There was plenty of lively discussion during general business and the feature for the evening was a tape lecture by Harold EAH, entitled "Fox Hunting". Our contributions are extended by Harold for his very fine lectures and commendable style. It was thoroughly enjoyed by all those who attended, from the youngest to the oldest, and is sure to add impetus and more satisfaction to our next fox hunting.

The activities this month seem to have been centred mainly on v.h.f. bands. Two new call signs have appeared, Bob 7ZRF and Graham 7ZBR, and this makes nine active stations working 2 metres in the Northern Zone. Local boys have been given a chance to try their gear over longer distances the last few weeks because David 7ZAI and Rick 7ZAT have both been very active on Blinders, and many contacts have been made between Flinders and Launceston, and to Postina. Some of the stations are only running low power of about 3 watts and the signal reports received have been surprisingly good.

Our committee, Den 7DK, has his fine effort in the VK-ZL DX contest, taking first place for VK7 in the c.w. section. Den has been casting his eye out for suitable relays. He may come up with that electronic key soon.

Very quickly, and I mean very quickly, that Graham 7ZBR is working out well. These young lads should do well and when joined by their confrere, Joe Jetson, there will be no stopping them.

Sorry to hear that Ray 7ZER has been on the sick list—finished off his long service leave in bed—but later reports say that he is now back at work, so it takes a lot to keep you down, Ray.

Den 7ZBB was very pleased to make contact with the Flinders Island boys 7ZAI and 7ZAT. It was the first long haul contact—130 miles on v.h.f. Ted 7TEC has been working hard in his c.w. set for the exam, a few weeks back, and soon should have his full call again.

The 20 mx band has been opening well here lately, during the afternoon and Ted 7EC has been working the c.w. on the 20 mx band. In his share also, Den 7DK has been picking a few more new countries. He now has more than enough for his D.X.C.C. This is the second time Den has worked his D.X.C.C. having done it on his VHF.

John 7IP has his lower finished and erected. The 5 ft. triangular steel type, and he hopes it will stand the 100 m.p.h. plus winds OK. It should soon be sporting a quad on top. This may be more trouble than profit, but it will be the tower anyway here's hoping. His new tx has been on the air but is presenting more problems than thought possible, mainly with severe oscillations in the final. Really vicious they are. John has also learned a lot about neutralising pi coupled finals, too!

Very pleased to meet two visitors to our last meeting—Keith Jones, who has his Limited licence, and is studying for his full Licence before obtaining his A.O.C.P. and A.M.C.P. cards, who is keen to obtain his A.O.C.P. Pleased to have you along chaps and we wish you every success. T3, Johnny Fox.

## NORTH-WEST ZONE

As our usual scribe has seen fit to go globe trotting I will do my best to find some news. Don't be fooled by the tx originating from Athol. It at some time it announces itself as 7MS it will only be that it is not yet officially registered. We are still awaiting an answer from David to come up on what he describes as his secret weapon. If he radiates it via that quad it will be diagonally polarised. George is really sold on s.a.b. Would like a bit more space though. I think he means a quad. George, Ken 7KA appears to be having some success portable. Also notice that Sam is still receiving the usual flood of DX cards.

Had a visit from IJF the other day. Do you remember me? Well, I am still here and locate you. Was thrilled to have a QSO with Keith 7RX from the rig of ZL1AMN Auckland the other night.

Some drastic changes are coming to this Zone due to lack of support. Social meetings will be held at private homes soon. Therefore we will be able to accommodate a limited number only. Bad luck chaps, but you asked for it. Remember that what you get out of

any organisation is commensurate to what you put into it. Perhaps we could blame t.v. for this.

We are hopeful that some aspiring (possibly perspiring) Hans will face the next Exam. The best of luck chaps and if you need any help it will be forthcoming.

Have a good night from the May social meeting. Quite a good roll-up. Nice to see TDR and TTT again. If this keeps up we may be able to revise our ideas. Some interesting lectures were delivered and I am sure that we will have some more. I am sure that George and Ken in deep discussion on some aspect of sideband. They are going to convert us all if we don't put up some sales resistance. T3, TMX.

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**FOR SALE:** Heathkit "Apache" SB10 combination, 10-80 mx, 150w, u.s.b.-l.s.b., c.w., 90w. a.m., v.o.x., in first class order, complete with manuals, offers to £235. Heathkit "Seneca" 2 and 6 mx 90w, xmtx, phone-c.w., v.f.o.-xtal, in first class order, complete with manual, offers to £90. VK3SE, S. E. Widgery, 39 York St. West, Ballarat, Vic.

**FOR SALE:** Heathkit Mobile MRI Rcvr. and MT1 xmtx, band-switched 10-80 mx, 90 watts a.m.-c.w., ceramic mike, 12v. transistor p.s. and home-made a.c. p.s. all in first class working order. Lot, offers to £200. J. L. Lewis, VK3SHW, C/o. 729 Sturt St., Ballarat, Vic.

**SELL:** Eddystone 640 Communications Receiver, 1600 Kc. to 31 Mc. Bandspread, xtal filter, etc., in good order, £45. Admiralty G46 Calibrator, 10 Mc. 1 Mc., 100 Kc., modulated, 240v. a.c. £6. 122 Transceiver, modified per "A.R.", complete with power supply, mike, phones, spare valves, other spares, protective grills, £25 or near offer. VK3WK, Staywood Park, Wangoom.

**SELL:** Eddystone 640 Com. Rcvr., complete with Spkr. S meter unit, booklet, spare tubes, etc., perfect condition, £40 or offer. AR82, perfect, complete with booklet, spkr., tube spares, etc. £2. Sideband Slicer and Multiphase Q Multiplier, product Central Electronics, Chicago; like new, circuit booklet, simple to instal, spares, etc., £30. Table-top Rig, 80-10 mx, 90w. c.w./a.m., AB2 modulation, high output, bandswitched, cabinet in grey with red and black trim, looks f.b., perfect order, complete with antenna tuner, pwr. supplies, booklets, spares, etc. £40. VK4SS, 35 Whynot Street, West End, Brisbane, Qld.

**WANTED TO BUY:** Type "S" Power Supply in good condition. Particulars to VK3AEQ, 17 Cromie Street, Murtoa, Vic.

**WANTED TO BUY:** 122 Power Supply in good order. VK3ARF, R. N. Fenton, 67 Lytle Street, Warracknabeal, Vic.

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Miniature toroidal transformers for transistor d.c. to d.c. converters. Fully encapsulated in epoxy resin. Suitable for horizontal or upright mounting. Voltage double circuit.

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Other voltages up to 350 watts output supplied to order.

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7/010 Pushback. Cotton covered over rubber insulation. 100 ft. reels, 4/6 reel + tax 25%. + Pack & Post 10d.

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Crystal turn-over type, complete with L.P. and Std. Sapphire Stylii, 17/6 each + tax 25%. + Pack & Post 5d.

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240 Volt A.C. operated. Fitted with four-speed turntable with variable adjustment on each speed. Attractive metal carrying case—supplied completely ready to play, £12/10/0 + sales tax 25%. + Freight 5/-.

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### DUCON ELECTROLYTIC CAPACITORS

TYPE EC metal cased upright type with mount foot.	
25 µF. 25 V.W. 1/9 each + tax 25%	POST
8 µF. 300 V.W. 2/- each + tax 25%	
16 µF. 300 V.W. 2/6 each + tax 25%	FREE
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TYPE EE metal cased upright type with metal mount foot.

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## ● SPEAKER TRANSFORMERS

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Fully cased and sealed type to suit 2 to 3 ohm voice coils. Impedances available: 500, 600, 1,500, 2,000, 3,000, 5,000 C.T., 7,000, 10,000 C.T., 14,000 C.T., 15,000 ohms. 7/6 each + tax 25%. Post free.

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359 LONSDALE ST., MELBOURNE — MU 8351



**this woman is making a valve**



Pictured above: One of the Valve Company's automatic tubulation machines. The last operation on this machine is a controlled annealing cycle to ensure high impact resistance of the glass envelope of the finished valve.

Shown below: A technician positions a Super Radiotron valve in one of the many pieces of advanced Automatic Tune-up equipment manufactured by Auto-Lab. Industries Pty. Ltd.

**this man is installing it in  
an automotive ignition scope**



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